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Memorial

TO

DR. CRAWFORD W. LONG

OF THE CLASS OF 1839, MEDICAL



Founded 1740

AN ACCOUNT OF THE CEREMONIES

OF THE UNVEILING OF A

BRONZE MEDALLION IN THE MEDICAL BUILDING ON MARCH 30, 1912,
TO THE MEMORY OF CRAWFORD W. LONG, WHO FIRST USED
ETHER AS AN ANESTHETIC IN SURGERY
ON MARCH 30, 1842

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IN the summer of 1910, at the British Medical Association meeting in London, Mrs. Frances Long Taylor presented original documents proving that her father, Crawford W. Long, gave ether as an anæsthetic for surgical purposes in 1842, four years before any other claimant for the discovery. While this had been known by authorities on anæsthesia, she felt that her father's memory should have wider recognition, and it has been her self-appointed and filial task to place the facts before the profession lest her father's modesty and self-effacement should result in their being neglected or forgotten.

This made his fame secure in England, and when the University of Pennsylvania decided in the same year to celebrate the seventieth anniversary of this great medical discovery made by her graduate, by unveiling a memorial bronze to his memory Mrs. Taylor felt that her life's ambition had at last been gratified and that the whole world would now recognize his undisputed claim.

The form of the memorial is a medallion, which enabled the artist to put on record the story of the first operation in plastic form and also to use as a decoration an appropriate inscription, neither of which would be possible in a bust.

The only available pictures were a crayon drawing of Dr. Long at twenty-six and a steel engraving showing a man of sixty. They have little in common so far as likeness is concerned, but as he was a graduate of only two years' standing when his first operation was performed, the crayon drawing, crude as it was, formed the basis on which the head was modelled. Work was started in the autumn of 1910 and has been continued throughout both winters, passing through many vicissitudes and changes of arrangement and composition.

The completed medallion shows the young doctor bending forward over a recumbent patient, dropping ether from a bottle held in the right hand on the towel that partly covers the patient's face and watching intently the patient's respiration. A spray of poppy leaves and pods rise from either side of the plate, bearing the words, "*Class of '39 Pennsylvania*," while the circular inscription above his head runs in two lines, "*To Crawford W. Long, First to Use Ether as an Anæsthetic in Surgery, March 30, 1842*," "*From His Alma Mater*." In the field to the left is the date of his birth and death, 1815 and 1878.

R. TAIT MCKENZIE, M.D.



BRONZE MEDALLION UNVEILED IN THE MEDICAL BUILDING ON MARCH 30, 1912, TO THE
MEMORY OF CRAWFORD W. LONG, WHO FIRST USED ETHER
AS AN ANESTHETIC IN SURGERY.

The Medallion was Designed by Professor R. Tait McKenzie.

ist (Pasteur by name) to determine why a certain fungus affected the two varieties of tartaric acid differently. In fact, to that piece of chemical work and the further researches to which it gave rise, may also be traced not only the magnificent development of aseptic surgery, but likewise our present positive knowledge of the microbic character of infections and our modern treatment of those diseases by vaccines, serums and anti-toxins.

Examples might be multiplied. The X-rays, now absolutely essential to both surgeon and physician, were found by Roentgen while investigating the effect of electricity upon gases, with not the slightest idea of discovering anything of use in the diagnosis or treatment of disease. Bacteriology, itself the foundation of medicine and surgery, is largely based on the reaction of bacteria to certain aniline dyes which were originally isolated merely to establish their chemical properties and commercial uses. The compound microscope, without which medicine would be where it was in the middle ages, came from experiments by physicists on the refraction of light, with no adequate thought of the new world it has revealed to us. Some entomologists who, for purposes of classification, were studying the wings and the skin covering and appendages of mosquitos, accumulated facts, that applied by others, brought the death rate from yellow fever in Havana from 36,000 in a single epidemic (1878) to zero in the years 1902, '03 and '04. M. and Mme. Curie, in searching for radium, had no thought that it, like the X-rays, might cure superficial cancers. Metchnikoff, a biologist, when he studied the swallowing and destruction of microbes by the living cells of a small crab, did not foresee the manifold applications of the principle of phagocytosis to the cure of disease, and never dreamed of the opsonin treatment and tests of to-day. When (in 1846) Joseph Leidy, afterwards for many years our Professor of Anatomy, and until his death the greatest American naturalist, found in a slice of boiled ham, from which he had partly made his dinner, the little immature worm, the trichina spiralis, he did not for a moment suspect the significance of the discovery, or that it would ultimately involve hundreds of millions of money and even the peace of nations.

And so, it might be illustrated, almost indefinitely, that the piling up of facts by those born with the impulse to delve into the unknown, or by those with the instinct to bring order out of confusion, and to group, arrange and classify physical truths and living beings, has always gone on, as it is going on now, and that the great "discoveries" that constitute the milestones of medical and scientific progress, are always the result of the gradual accumulation of material usually made with no reference to its beneficent employment.

But there is something else than "facts" needed before the discovery comes. Ether may stand—as it did stand—for three hundred years on the chemists' shelves while the tortures and agonies of injury, of disease, even of physiological processes like parturition, go on unalleviated. Men there may be during those centuries with minds as keen and abilities as great as those of any who follow them, but the two—the physical substance and the minds cognizant of its existence—remain as relatively alien and unproductive as flint and steel in the absence of contact, or as the two poles of a battery without a uniting medium. That medium is difficult of precise definition. For want of a better term, it

may, for my present purpose, be spoken of as a favoring intellectual—in this case a scientific—atmosphere. This is always of slow formation. The facts are there; the men are there. But the currents of thought, the connecting medium, are absent. By the time the "atmosphere" has formed, when the world is as it were, ready for a discovery, there have been almost invariably (perhaps under unconscious telepathic influences of which we as yet know nothing), several minds turning or groping in the same direction.

One single example must suffice. The crowning intellectual achievement of the nineteenth century was the enunciation—with convincing proofs—of the doctrine of evolution by Charles Darwin. The way had been blazed for him by Goethe and Erasmus Darwin and Lamarck, but their somewhat vague ideas had been allowed to fade into forgetfulness. When, however (in 1858), after spending fourteen years in collecting evidence, he was almost ready for publication, he received from a friend, Alfred Wallace, living at the antipodes, who had no knowledge of Darwin's work, a manuscript that contained observations, reasonings and conclusions, that precisely paralleled his own. In November, 1859, he gave his immortal work on "The Origin of Species" to the world. On October 11th, of the same year, a month previous, Prof. Joseph Leidy, in his introductory lectures to the Medical Class of this University, said: "We are accumulating facts from which our successors may, perhaps, derive positive opinions in relation to the earliest history of organized beings, whether their species or various forms had a unique or plural origin, and whether or not the race of one age is the descendant of that which preceded it."

As we look back, with these ideas in mind, we find that our predecessors at Pennsylvania certainly had their share in the accumulation of the facts and in the formation of the atmosphere that jointly led to the use of ether in surgery.

In justifying this statement, I must begin (as we always begin here) with Benjamin Franklin, the greatest American of all time. That he founded the University (1740), advanced in every way the cause of general education, built and started the first American Hospital (1755), and did all the work as a statesman, a scientist, and an experimentalist with which the world is now so familiar, may not seem to have much direct relation to our subject, except that it was all undoubtedly effective in fostering every sort of intellectual advancement. His most valuable work, however, in preparing the field for the introduction of anesthesia, was in the vigorous and successful fight he waged against the bigotry, fanaticism and ignorance which then, as now, were opposed to inoculation for smallpox, the greatest scourge of that and of many preceding centuries. Although inoculation had been introduced into this country in 1721, it was still bitterly inveighed against, partly, to our shame be it said, by the reactionaries, the "stand-patters," in our own profession, and largely by the clergy, who preached against it—as they did a century and more afterward against the abolition of pain—as "subverting the decrees of Providence and resisting the punishments of God." In 1732 a Reverend Mr. Massey preached from the text of Job 2: 7: "So went Satan forth from the presence of the Lord, and smote Job with sore boils from the sole of his foot unto his crown," concluding that "the cutaneous disease of Job was produced by inoculation from the hands of

the devil, and the whole art was of infernal invention."

One hundred and more years later a clergyman wrote to Sir James Simpson, who was employing anesthesia in childbirth, and characterized it as "a decoy of Satan, apparently offering itself to bless women, but in the end destined to harden society and rob God of the deep earnest cries which arise in time of trouble, for help."

In breaking down by precept, example and widespread proclamation of his views this biased and besotted antagonism to a great public benefaction, Franklin was as surely aiding in the discovery of anesthesia and its use as if he had foreseen it.

The "most notable American medical essay of the eighteenth century," according to an unprejudiced Bostonian, was the Discourse at the Commencement of this University in 1765, given by Dr. John Morgan, which led to the immediate establishment of this Medical School, the first in America. The same historian calls Morgan the "grandfather," as Benjamin Rush was the "father" of American medicine.

No single agency contributed more to the preparation for anesthesia than Morgan's teachings as to medical education with its fundamental relation to the natural sciences, chemistry, anatomy and physiology. It was begun on that basis in this country and in this school in the same year (1765) and has been carried on through all the intervening years on the same broad principles, through the period of Dr. Long's attendance here and down to the present day. Its influence has been nation-wide—often world-wide—and as a factor in bringing about the condition of medical science to-day, it can never be ignored.

In 1768 Benjamin Rush was elected a professor in this University. He was not only, as Mumford has called him, the "Father of Medicine," in this country. He was the father of Experimental Medicine, the founder of Scientific Medicine, almost the first distinguished practitioner to evince, in the midst of the fog which then enshrouded our profession, the desire to discover the underlying principles of disease and treatment. He was the most brilliant teacher of the day, and it can be readily understood that the man who, during the great epidemic of yellow fever, in 1793, when thousands were fleeing from this stricken city, could write to a friend: "I have resolved to stick to my principles, my practice, and my patients to the last extremity," was not without influence on those who surrounded and on those who followed him. He wrote, in 1812, that he had reached the conclusion that "pain does not accompany child-bearing by an immutable decree of Heaven," and that he hoped "that a medicine would be discovered that should suspend sensibility and leave irritability or the power of motion unimpaired, and thereby destroy labor-pains altogether." It may well be that the echoes of such teaching reached and directly inspired Crawford Long, who began the study of medicine only twenty-five years after the expression of this prophetic hope. Contemporaneous with or following Rush, came Woodhouse (1792), who helped to break down the old phlogistic theory which stood in the way of all chemical advance, and who demonstrated that oxygen was given off by living plants—a fact of immense importance in the later studies of animal heat and respiration, and, therefore, in all our present views of the processes of both health and dis-

ease. We cannot claim Joseph Priestley, the discoverer of oxygen, as a "son of Pennsylvania," but as he was offered the chair of Chemistry in 1794, and declined only on account of advancing years, and as he was in frequent correspondence with the professors and alumni of that period, he may, perhaps, with propriety, be associated with the men I have described. Robert Hare (1818) added the Voltaic pile and the oxyhydrogen blowpipe to the equipment, first of the physicists and then of the manufacturers of the world. Young, in his graduation thesis, in 1803, determined the presence of a digestive acid and the ferment action of the gastric juice thirty years before the classical experiments of Beaumont upon St. Martin. John Redman Coxe (1809), though a medical man, was the first of all Americans after Franklin, to propose a plan for electrical telegraphic communication; while Philip Syng Physick (1805) was the first surgeon in the world to use absorbable animal ligatures. George B. Wood (1835) built a still-existing monument to his memory by putting forth the Dispensatory of the United States; Chapman (1816), Gibson (1819), Barton (1789) and others, made the school still more famous by their work and their teachings. In 1838, when Dr. Long came to us, the reputation of the School had so extended, that our Alumni—the pupils of the men I have named—were filling the most important chairs in the chief medical colleges of the country, two at Harvard, two in New York, two in Winchester, Virginia, two in Lexington, Kentucky, four in Baltimore, six in Charleston, and, as has always been the case, some of our very best with our younger sister, the Jefferson Medical College. There were then eighteen medical journals in America, and ten of them were originated and edited by our graduates. With almost no exception the systematic treatises then in use in Medicine, Surgery, Obstetrics, Materia Medica and Therapeutics, had been written by our professors. In 1838 there had been put forth from this School textbooks on Anatomy, 11 (the last, published that very year, having been "Practical Lessons in Anatomy," by D. Hayes Agnew); on Surgery, 11; on Medicine, 15; on Midwifery, 12; on Materia Medica and Therapeutics, 18, including the Dispensatory. In addition may be named one of the first American Medical dictionaries, one of the first compendiums, and 31 important American editions of European authors with notes and comments intended to make them more useful to American students.

It may certainly fairly be said that when Crawford Long came here at the age of 23, he found, as he could have found nowhere else in America, the scientific traditions, the intellectual stimulus to original thoughts and deeds, the "atmosphere," in other words, that was favorable, probably essential to his later achievement.

It is tempting to continue and to try to show by our records that, while Crawford Long's name, and, therefore, the name of this School, are identified with the greatest contribution to Medical Science yet made by America, there has been done here during the seventy years that have elapsed since that memorable March 30th of 1842, much work that has already notably increased the sum of useful knowledge, and much more that will doubtless prove to be the foundation of some now unforeseen and unimagined addition to Medical Science.

Gerhard, who first clearly differentiated typhus

and typhoid fevers; Pepper, with his fundamental examination of the pathology of pernicious anemia; H. C. Wood, who first led the profession of the country to the intelligent study of the physiological action of drugs; Wormley, with his classical work on the micro-chemistry of poisons; Mills, with his researches into cerebral localization; Flexner, with his fruitful investigation of the cause of bacillary dysentery; Osler, with his study of the hematocoon of malarial fever; Guiteras, with his description of filariasis; Allen Smith, with his discovery of the hookworm disease; Leo Loeb, with his experiments in tumor-transplantation,—these are but a few—not one in twenty—of the names and achievements that jostle one another for recognition, some of them belonging to the generation just reaching scientific maturity. The list would, however, be inexcusably incomplete without mention of that great contribution to general science made by Reichert and Brown, and recently published by the Carnegie Institution—a work which extends the doctrine of evolution to the physical construction of the protoplasmic molecules of animals and plants, and opens an endless field of application to the difficult problems of specific growth, cellular and sex differentiation and to the explanation of metabolism, immunity, tumor growth and the most intricate phases of physiology and pathology. The great teachers, the distinguished practitioners, the writers of textbooks that have been the guides and consultants of thousands of medical men extend in an unbroken line from Rush, Wistar, Horner, Barton, Chapman, through Stillé, Carson, Agnew, Pepper, Leidy, Penrose, Wood, Goodell, to the present day.

It is a gratification to think that we are participating in exercises destined to add beyond cavil or future question the name of Crawford Long to that list of distinguished Pennsylvanians, who have well and faithfully served their profession and their country. There it rightfully belongs, and we may feel that his never-to-be-forgotten act will be more than ever an example and a source of pride to successive generations of our students and alumni. So great a feat may never be duplicated. It is not given to many to take the first step in wiping out immeasurable agony and suffering. And yet—who knows? Lord Lister told me that in his very earliest days in Edinburgh, when he was still uncertain whether to remain there or begin his work elsewhere, he consulted Mr. Syme, who was then the leading surgeon of Great Britain. The latter told him that he would probably do well to stay there, but remarked that it really seemed as though there were not much left to do in the way of advancing surgical science, little thinking at the time that the young man he was talking to, his future son-in-law, would almost, alone and unaided, effect the greatest revolution in surgery, and bring about the greatest step in advance, which has been made since Harvey discovered the circulation of the blood.

It would be presumptuous folly to assert that we are as yet beyond the threshold of our science. With each addition to human knowledge comes the possibility of some new, perhaps some overwhelming revelation of usefulness to humanity. The keenest foresight, the most daring imagination cannot penetrate the first and nearest of the endless vistas that stretch before us. Some day anesthesia and asepsis—immeasurably the greatest advances of this age—may have only historic interest. But it is well to think that in looking back, the names of

Crawford Long and of the University of Pennsylvania will always be associated with the first of these and that, if we look forward, there is every reason to hope and believe that those names will be an inspiration to the thinkers, the investigators, and the discoverers of the future.

CRAWFORD W. LONG.

By John Chalmers Da Costa, M.D., LL.D., Gross Professor of Surgery in Jefferson Medical College.¹

Now and then a real leader, an original force, a truly great man comes into the world, and moves us as one inspired. He dares to lift the veil which hangs before the mysteries, the veil which lesser men are too ignorant to observe, too indifferent to regard, or too cowardly or incapable to displace. Such a man seeks truth and scorns wealth—courts labor and forgets ease—fights dragons and slays giants—is the slave to duty, is contemptuous of popularity, and finally wrings

"the secret of deliverance forth
Whether it lurk in hells or hide in heavens."

He originates. Every institution, says Emerson, "was once the act of a single man."

All such men have earned the reverent love and the eternal gratitude of humanity. Love and gratitude are the debts men owe to the memories of the heroes of progress, because of their labors, pains, perils and sacrifices. What would have become of the world without such men?

"Men

Perished in winter-winds till one smote fire
From flint-stones coldly hiding what they held,
The red spark treasured from the kindling sun.
They gorged on flesh like wolves, till one sowed
corn,
Which grew a weed, yet makes the life of man:
They mowed and babbled till some tongue struck
speech,
And patient fingers framed the lettered sound.
What good gift have my brothers, but it came
From search and strife and loving sacrifice?"

The world is often ignorant of its greatest men. Men, to us nameless, made some of the grandest discoveries and perfected some of the most remarkable inventions.

"Who found the seeds of fire and made them shoot,
Fed by his breath, in buds and flowers of flame?
Who forged in roaring flames the ponderous stone,
And shaped the moulded metal to his need?
Who gave the dragging car its rolling wheel,
And tamed the steed that whirls its circling round?
All these have left their work and not their names."

When a man has found a radiant truth, has done

¹ In the preparation of this address I have quoted freely from many sources, especially the following: "Crawford W. Long, Discoverer of Anæsthesia," by Rosa Pendleton Chiles ("Munsey," August, 1911); "Long and his Discovery," by Isham H. Goss ("Journal-Record of Medicine," November, 1908); "Long, the Discoverer of Anæsthesia," by Hugh H. Young ("Johns Hopkins Historical Bulletin," August-September, 1897); "Crawford Williamson Long: the Pioneer of Anæsthesia," by Dudley W. Buxton (Proceedings of the Royal Society of Medicine, January, 1912). I am greatly indebted to Mrs. Frances Long Taylor, Dr. Long's daughter, for several interesting and important communications.

some gleaming deed, but has received no tribute of praise or glory, it is a peculiarly grateful thing to see the conscience of the world awoken, and to find men place the name of their long neglected benefactor

"On Fame's eternal beadroll."

Seventy years ago to-day, on the 30th of March, 1842, and in the little village of Jefferson, Jackson county, Georgia, anesthesia was first intentionally produced to permit of the painless performance of a surgical operation. This discovery was one of the greatest in the history of science and ranks in importance with the discovery by Harvey of the circulation of the blood—by Franklin of phenomena of electricity, by Jenner of vaccination, by Pasteur of bacteriology, and by Lister of antiseptic surgery. The giving of ether as a surgical anesthetic was not a haphazard accident, but was reasoned out from observations.

The man who first gave ether for surgical purposes was Crawford W. Long, a native and resident of the State of Georgia, and a graduate of the University of Pennsylvania in the class of 1839. There seems a peculiar adjustment to the eternal fitness of things in the fact that a son of the University founded by the great practical philosopher, Benjamin Franklin, should have made one of the greatest practical discoveries of all time.

Long's great discovery was not made in a splendidly equipped institution of world-wide fame, nor by a professor whose lecture room was packed with eager students, but by a modest, unassuming country doctor, dwelling in an isolated village. Truly! greater things for mankind have come from the hut than from the palace, from the peaceful country than from the roaring town.

We meet to-day in commemoration and celebration: in commemoration of the 70th anniversary of the discovery of ether anesthesia, and in celebration of the noble achievement of a great son of this grand old school.

We will strive to:

Part the mists which almost hide
A man of former days
And spin upon the Wheel of Truth
Some golden threads of praise.

No one disputes that Long gave ether for surgical purposes over four years before Morton did, and at least two years before Horace Wells pulled the tooth of a patient who was under the influence of Nitrous Oxide Gas. There is no claim that Morton knew anything of Long's observations. It is freely admitted by all that Warren, in the operating room of the Massachusetts General Hospital, gave to Morton the opportunity to dramatically impress the world with his views. Morton and Warren made the world hear, Long made the discovery, and would also have made the world hear had he had a great City Hospital as a forum from which to speak, and a celebrated surgeon as a spokesman and advocate. Long has been criticised for not publishing his discovery at once. Jenner waited twenty years to publish his and after twenty years had only made twenty-three observations. Suppose someone had published about vaccination after Jenner had worked nineteen years, would Jenner any the less have been the discoverer?

Long made no official claim to the discovery until 1849, when he told his story to the Medical Society of Georgia. He did so then only because his friends thought he would be doing himself injustice to keep silent. His intention had been to collect enough

cases to thoroughly test the method. This was slow work in a country district in which surgical operations were few and far between. He used ether seven or eight times in four years. In December, 1846, he read of Morton's success. Soon after Morton, Jackson and Wells became involved in a bitter controversy and Long shrunk from such things and abhorred the patenting of ether.

In the statement to the Georgia Medical Society, Long presented an affidavit of James M. Venable, then living, stating that ether had been given to him by Long on two occasions in the Spring of 1842—an affidavit of Andrew J. Thrumond stating that he saw Long do one of the operations on Venable—affidavits of E. S. Rawls and Wm. H. Thrumond declaring that they witnessed one or both operations, and other conclusive evidence. The original affidavits still exist.

Morton patented ether in 1846 under the name of "letheon." Wells opposed Morton's patent, went insane, and committed suicide in 1848. The government never enforced the patent right and army surgeons used ether freely in the Mexican war, Morton getting no return for it. In 1849 Morton applied to Congress for a grant of \$100,000 as compensation for his losses and reward for his alleged discovery. Jackson opposed Morton's claim. Jackson claimed that he had suggested ether to Morton.

The controversy was acrimonious and protracted. In 1852 the French Academy of Sciences granted a prize to Jackson as the discoverer of ether, and a like amount to Morton, as the first to apply it.

In 1854 Dr. Long was persuaded to write a letter to Senator Dawson of Georgia telling the story of the discovery in 1842. Jackson had a conference with Long and finally withdrew his own claim in Long's favor. In the "Boston Medical and Surgical Journal," April 11, 1861, will be found a letter from Jackson giving Long the credit. No money was ever granted by the government.

Jackson, like Wells, went insane, and died in 1880. Morton died in 1868, getting an apoplexy while engaged at learning of attempts to deprive him of the glory of the discovery. Long, free from such heart-burnings, pursued the calm ways of a country doctor, and made no further attempt to establish his claim. He led a useful and happy life and died in 1878. Morton, probably because men thought that the government had treated him shabbily, came to be regarded as the real discoverer, and until 1877 there was no one to say nay. In that year, Dr. J. Marion Simms published an article in the May number of the "Virginia Medical Monthly" claiming that Long had made the discovery. There is one serious mistake in the article of Dr. Simms. He stated that S. C. Wilhite, a student of Long, suggested to his preceptor the use of ether.

Wilhite was not with Long in 1842, in fact did not go to him until 1844. Wilhite corrected this error in a letter to Dr. Long, dated June 27, 1877. Professor Gross in commenting on Simms' paper (System of Surgery), says: "Although he (Long) may have been, and probably was, the first to use this drug as a means of preventing pain, he failed to interest the profession in it and has thus lost all just claim to the honor of one of the greatest discoveries ever achieved by human genius." Professor Agnew must have felt as Gross did, for in his book (Principles and Practice of Surgery), he gives Morton the credit for the discovery and does not even mention the name of Crawford Long. The claims of Long have since

found able champions in Sir James Paget, Dr. George Foy, of Dublin; Dr. Hugh H. Young, of Baltimore; Dr. Isham H. Goss, of Athens, Georgia; Dr. Luther Grandy, and Rose Pendleton Chiles. Dr. Frances R. Packard tells the story very impartially in his admirable "History of Medicine in the United States," which was published in 1901.

Frederick W. Hewitt in his work on "Anesthetics" (1901) says: "There seems to be no reasonable doubt that in 1842 Dr. Crawford W. Long, a country practitioner of Jefferson, Jackson County, Georgia, United States of America, administered ether vapor with the distinct object and fortunate result of producing insensibility to pain during a surgical operation which he performed, and that he subsequently employed the same means with equal success." Henry M. Lyman in Ashhurst's International Encyclopedia of Surgery (1889) says that Long gave ether in 1842, but as he "resided in a remote and isolated portion of the country, and as he published no statement of his experience, his discovery remained unknown."

Of late years Long's claims have been more and more regarded until justice at length prevails.

The Medical Society of Georgia has erected a monument to Long in Jefferson, where ether was first used as an anesthetic. The Legislature of Georgia has resolved to place his statue, with that of Alexander H. Stephens, in the statuary hall of the National capitol.

On December 1, 1911, Dr. Dudley W. Buxton, the distinguished English anæsthetist, presented to the Section of Anæsthetics of the Royal Society of Medicine an article which seems final and conclusive. It is written with that literary grace and painstaking accuracy which characterize all of Dr. Buxton's productions. In this article will be found a resumé of Long's life—the story of the discovery and reproductions of various convincing documents; among them are: A letter from Dr. Long to R. H. Goodman (dated February 1, 1842), ordering the ether for the first operation, and a covering letter from Goodman—affidavits of James M. Venable and others, previously referred to—Long's bill to Venable charging twenty-five cents for the ether used and two dollars for the operation—extract from Long's record book of the operation done on Venable and charge for the operation and ether used. It is dated March 30, 1842. Certificate of Mary Vincent and her husband, declaring that Long gave Mrs. Vincent ether in 1843. There are also copies of other important and interesting papers. Buxton's complete and masterly study may be read in the published Proceedings of the Royal Society of Medicine, January, 1912. It gains greater emphasis by coming to us across the sea from a gentleman free of any possible prejudice or partiality. It is the unvarnished truth, and the world now regards Long as the real discoverer. Hence I do not stand here courting controversy. I am not obliged to search dusty records in order to clear up controverted points. I do not need to delve deep in obscure mines after the nugget of Truth. Simms, Young, Buxton and others have found that nugget and the gleaming metal may be seen and can be tested by all men.

Crawford Williamson Long was born in Danielsville, Madison County, Georgia, November 1, 1815. His family was prominent socially and in public affairs.

Crawford's grandfather was Captain Samuel Long, an Irishman by birth and an adopted son of Penn-

sylvania, who resided in Carlisle. He married Miss Williamson of Ulster, Ireland; served in the army of Washington and at the Yorktown surrender, was a captain in the command of the Marquis de Lafayette. At the termination of the war with the Mother Country, he became a citizen of Georgia. His son James Long was a planter and was for years Clerk of the Supreme Court. He sat in the State Senate for two terms, and was the intimate and trusted friend of the celebrated statesman, Wm. H. Crawford, a man who was successively United States Senator, President pro tem of the Senate, Minister to France, Secretary of the Treasury, and candidate for President of the United States in 1824, against John Quincy Adams, Andrew Jackson and Henry Clay. The subject of this address was named Crawford, after the great statesman and Williamson after Captain Long's wife. Dr. Long's mother, Eliza Ware, was a Virginian, and an energetic, warm-hearted, ambitious, sympathetic woman, of refined taste and much literary ability.

As a boy Crawford was educated in the Academy of his native town. He was bright, interesting, studious and lovable. He was an entirely normal boy and loved dogs, horses, fishing, shooting, and outdoor sports. He entered Franklin College (now the Department of Liberal Arts of the University of Georgia) and graduated when only nineteen years of age, taking the second honor. At college he formed a friendship, which was to last a life-time, with Alexander H. Stephens, a man destined to become Vice-President of the Southern Confederacy.

After graduation he studied for a time under a preceptor, and then took a course of medical lectures in Transylvania University. This school was in Lexington, Kentucky. Long rode on horseback from Georgia to Kentucky, crossing rugged mountains and passing through regions not yet free from treacherous Indians. In the fall of 1837, he went to Philadelphia and entered as a medical student in the University of Pennsylvania, from which institution he graduated in 1839. Agnew graduated in 1838. The two boys must have known each other and have often ridden out together from the University to Blockley Hospital. While Long was in Philadelphia he resided in a Quaker household at the corner of 19th and Market streets. When Long went up to college seventy-five years ago the United States was a small country compared with the mighty nation which now reaches into the very portals of the distant sunset. There were twenty-six states and two territories (Florida and Wisconsin). Most of the vast region beyond the Mississippi, out of which twenty imperial commonwealths have been made, was a wilderness haunted by wild Indians and infested by savage beasts. Much of it belonged to Mexico. Texas was a republic and Samuel Houston was its president. The population of the country numbered about fifteen million people and approximately one-sixth of them were slaves. Martin Van Buren was President of the United States, and Richard M. Johnson was Vice-President. The navy list still held the names of those old heroes, Rogers, Barron, Stewart and Hull. Winfield Scott was a brigadier-general in charge of the department of the East.

Roger B. Taney was Chief Justice of the Supreme Court and Joseph Story sat by his side. There was no national debt and the government was preparing to distribute a surplus of thirty-seven million dollars among the states. There were 1,600 miles of railroad in operation in the country and 120 miles in Pennsylvania.

In the United States Senate sat Franklin Pierce, Daniel Webster, Silas Wright, James Buchanan, Thomas Clayton, William C. Rives, John C. Calhoun, Wm. R. King, Robert J. Walker, John J. Crittenden, Henry Clay and Thomas H. Benton.

In the House of Representatives were John Quincy Adams, Caleb Cushing, Millard Filmore, John Sergeant, Henry A. Wise, John Bell, James K. Polk and Thomas Corwin.

To send a one-sheet letter for over 400 miles cost twenty-five cents—from Philadelphia to New York ten cents—not over thirty miles six cents.

Truly it is a far cry from the United States of the time of Van Buren to the United States of the time of Taft.

The University of Pennsylvania was first in renown among the twenty-eight medical schools of the country, and possessed the ablest faculty in the United States. The buildings were at 9th and Chestnut streets, where the Post Office now stands. On the rolls of the University were 400 medical students over one-seventh of the entire number in the land.

Philip Syng Physick, the pupil of John Hunter and the father of American surgery, died during Long's first course. At the time of his death he was Emeritus Professor of Surgery and Anatomy. He was the first to use catgut as a ligature material—devised the stomach tube and many useful instruments—and advised the treatment of ununited fracture by the seton. A specimen of a fractured humerus successfully treated by Physick is to be seen to-day in the museum. For months after his death and by his direction his grave was guarded to keep away resurrection men, as he had a great horror of being dissected.

William Gibson, the pupil of Sir Charles Bell, was the Professor of Surgery. He had served under Wellington in Belgium and was wounded at Waterloo. He was the friend and correspondent of Lord Byron. In 1819 he was called from the University of Maryland to succeed Physick in Pennsylvania. He was the first man to tie the common iliac artery (1812). He twice did a successful Cæsarean Section on the same patient, and saved the mother and both children. Nathaniel Chapman the wit, critic, booklover, social light, jovial companion, and scientist, was Professor of Practice of Physic and Clinical Medicine. He stood without a peer as a practitioner and in spite of a congenital speech defect, was one of the greatest teachers in America.

Chapman's book on therapeutics was widely celebrated.

George B. Wood, the profound scholar, the keen observer, the original thinker, taught *Materia Medica*. With Franklin Bache he edited the *United States Dispensatory*. For many years he practically determined the views of the whole profession on ethics and practice. His lectures were the pride and glory of the University and had immense influence in moulding the minds of the students. No man who has held a chair in the University brought to it greater reputation than did George B. Wood. His condemnation of the premature reporting of cases and drug actions may well have decided Long a few years later to delay in publishing a report of the actions of ether. Wood spoke of immature views and premature judgments as *ignes fatui*. He insisted that observers must never be content with a single experiment. (See Introductory lecture 1840.)

William E. Horner, he of the feeble frame, melancholy temperament, scholarly faculty and original

bent, was Professor of Anatomy. He is particularly remembered as the founder of St. Joseph's Hospital and the discoverer of the tensor tarsi, which is still called Horner's muscle. Samuel Jackson, who did so much to introduce the principles of Laennec and Louis to the American profession, was Professor of Institutes of Medicine.

Hugh L. Hodge, who had been forced to abandon a surgical career because of impaired sight, was Professor of Midwifery, having defeated Charles D. Meigs for the chair. Hodge's forceps and pessaries were known all over the world.

Robert Hare was the celebrated Professor of Chemistry. He had been a fellow-student of Silliman, and when only twenty years of age, had invented the oxyhydrogen blowpipe. He was called to the University from William and Mary College. He was one of the ablest chemists and electricians then living, was a most impressive lecturer and a highly successful experimenter.

Such were the men of the Faculty of '38 and '39, the men to whom the young Georgia student listened, the men who helped to guide and direct his mind. The session began November 1st, according to the catalogue; it ended "about the first day of March ensuing." Commencement was evidently a movable feast, for the catalogue states that it is "held generally about the first of April." No text books were recommended in the catalogue, but we know that students used the "Syllabus of Wood's Lectures," "Chapman's Therapeutics," "Gibson's Surgery," "Horner's Anatomy" and "Hare's Chemistry."

Blockley stood where it does now, and some of the buildings are very little changed externally. Agnew says that at this period, Blockley was "the great clinical school of the country." Every Saturday morning many busses gathered at Ninth and Chestnut, and crowds of students rode out to clinical lessons within those grim walls. Lectures were given by Samuel Jackson, Robley Dunglison, Joseph Pancoast and William Gerhard. J. M. DaCosta speaks of Gerhard as "the greatest observer and clinician America has produced."

In those days, William Norris, George B. Wood, John Rhea Barton and John K. Mitchell were at the Pennsylvania Hospital.

Samuel D. Gross had not yet gone to Louisville from Cincinnati, and George McClellan was serving his last year as Professor of Surgery in Jefferson. Students of those days were far more turbulent than now, and fierce combats were common between the students of the rival schools.

During Long's student days, Dickens' "Pickwick Papers," "Oliver Twist" and "Nicholas Nickleby" were published. Thackeray, whose very name was unknown, was a contributor to "Frazer's Magazine." Oliver Wendell Holmes, who later suggested the term, "anæsthesia," was trying for practice in Boston. Washington Irving was engaged in active literary work at his home, Sunnyside, in Tarrytown. Nathaniel Hawthorne was in Salem writing "Twice Told Tales." Motley was writing his first book, "Morton's Hope." The weird tales of the sombre genius, Edgar Allan Poe, were taking hold of the public imagination.

Longfellow was teaching modern languages in Harvard and writing "Hyperion." James Russell Lowell was a student at Harvard. Andrew Jackson was at the "Hermitage," in serene retirement after stressful and turbulent years.

The world, now recovered from the great conserva-

tive reaction which followed the French Revolution, was full of ferment, investigation, speculation and novel ideas.

Railroads were reaching out their tentacles on all sides, and the whistle of the locomotive had become the proclamation of civilization.

The steamboat "Great Western" had crossed the ocean from Bristol to New York in thirteen days and eight hours. Itinerant lecturers were showing to amused audiences the curious antics of persons who inhaled nitrous oxide gas, or, as it came to be called, laughing gas. Such exhibitions were called nitrous oxide frolics. Men were on the tip toe of expectation as to the supposed beneficent powers of hypnotism. It was learned with amazement that a hypnotized subject could feel no pain, and that Ward, in London, and Cloquet and Lysel, in France, had performed painless operations upon people sleeping the "magnetic sleep." Everybody felt that we were on the threshold of great events and that the first few, hesitating words of truth, had, as yet, but scarce been lisped by the baby lips of science.

Medical students must, of course, have heard of these things, discussed them with each other, asked questions of their professors and speculated as to the possibility of painless surgery. Every visit to the surgical clinic must have impressed on their minds the tortures inflicted by operations, and what a beneficent change it would be could a victim sleep under the knife. Neither Gibson, Wood or Chapman had a word to say in favor of "animal magnetism," or Braidism, as it came to be called. Gibson's book says nothing at all about preventing pain in surgical operations. He certainly followed the usual custom—drugged the patient heavily with opium, and had him forcibly held or firmly strapped during the dread tragedy of the operation.

Nitrous oxide was a well-known drug and was lectured on by teachers of chemistry and therapeutics. Sir Humphrey Davy, in the year 1799, found out that, if inhaled, nitrous oxide would subdue pain, and suggested its use in surgical operations. In 1800 he published his experience and suggestion. Davy's recommendation was never acted on until Horace Wells used the gas as an anesthetic in 1844. Hare taught that when nitrous oxide is inhaled, it produces "a transient, peculiar, various and generally vivacious ebriety."

Pareira, in his *materia medica* (1839), states that he had given nitrous oxide to about 100 persons, that it produces temporary and usually pleasing delirium, which subsides in three or four minutes—that the delirium takes different forms, causing some to dance and some to fight. In some few cases stupor is produced. He recommended it for spasmodic asthma.

Ether had been known for several centuries. Hare, in his chemistry, speaks of the internal administration of ether, but says nothing of the effects of inhalations. Wood does speak of ether inhalations. I find a reference to it in the Syllabus of his lectures. He says it may be inhaled, tells what inhalations are advised for, and explains how they are given. It was used in very small doses for spasmodic conditions. Dr. Wood states in his *Therapeutics*, written at a much later date than this, that "Ether has been long used by this method (inhalation). The late Dr. P. S. Physick was much in the habit of employing it in pulmonary affections, and invented

a small, extemporaneous inhaler for the purpose." Dr. Physick died in 1838.²

Pareira discusses the stomach administration of ether, and says that large doses cause intoxication, and excessive doses, stupefaction. He also speaks of ether drinkers, and refers to a chemist suffering from cancer of the colon, who drank a pint of ether a day to relieve his pain. Pareira speaks of inhalations as follows: "When the vapour of ether, sufficiently diluted with atmospheric air, is inhaled, it causes irritation of the epiglottis, a sensation of fullness in the head and a succession of effects analogous to those caused by the protoxide of nitrogen. —. If the air be too strongly impregnated with ether, stupefaction ensues. In one case this state continued, with occasional periods of intermission, for more than thirty hours: for many days the pulse was so much lowered that considerable fears were entertained for the safety of the patient. In another case, an apoplectic condition, which continued for nine hours, was produced." The case of lethargy for thirty hours, spoken of by Pareira, was originally referred to in an article published, in 1818, in the "English Quarterly Journal of Science and Arts," and supposed to have been written by Faraday.³ Pareira was evidently fearful of the effects of ether by inhalation.⁴ He used it by dropping some of the drug on a lump of sugar and holding the sugar in the mouth, or by dropping ether in hot water and inhaling the vapour mixed with steam. It was recommended for chronic catarrh and dyspnoea, whooping cough, spasmodic asthma, and to relieve the effects produced by the accidental inhalation of chlorine.

* * *

We may conclude that when Long left this school he understood the agony caused by surgery and realized what a great thing it would be to be able to operate without causing pain, that he had no belief in the value of "animal magnetism," as a surgical anesthetic—that he knew that nitrous oxide, when inhaled, would produce delirium—that he knew that ether inhalations were given therapeutically and sometimes taken for sport, and that large doses would produce unconsciousness. He had been taught, and probably at that time believed, that only small doses were admissible and that doses large enough to produce unconsciousness would bring deadly peril to the patient. He likewise took with him the council of Wood regarding the necessity of being ever cautious in reputed results.

After graduation he went to New York City and "walked the hospitals." In that city he had the opportunity to hear Valentine Mott, J. Kearny Rogers and Willard Parker. He wished to enter the

² Over forty years before Long came up to college Beddols used inhalations of small quantities of ether to relieve pain. Soon after Beddols' practice began, Pierson used ether inhalations for consumption, and so did Warren, of Boston. Several years before 1837, Dr. J. D. Mitchell, of Philadelphia wrote (quoted from "Anæsthetics: Ancient and Modern," by George Foy): "Some years ago a practice obtained among the lads of Philadelphia of inhaling the vapor of sulphuric ether by way of sport. . . . In some instances the experiment excited mere playfulness and sprightly movement, but in several cases delirium and even phrenitis was induced, which ended fatally."

³ Foy states that Faraday "acknowledged the authorship of the article" ("Anæsthetics: Ancient and Modern").

⁴ Foy quotes the "Edinburgh Medical and Surgical Journal" as saying that, beyond question, "the inhalation of air much loaded 'with ether' will prove highly dangerous" ("Anæsthetics: Ancient and Modern").

medical corps of the U. S. Navy but his father vetoed the plan, so he returned to Georgia in 1841, and began general practice in Jefferson, a village in Jackson County.

The year 1841 was the very year that Esdaille, in India, performed so many operations upon hypnotized subjects, that Braid, of Manchester, began to set forth his views on induced trance, and that Elliotson began to warmly advocate hypnotism as a surgical anesthetic.

Here is the story of Long's discovery, and in his own words:—"In the month of December, 1841, or in January, 1842, the subject of inhalation of nitrous oxide gas was introduced in a company of young men in this village; several persons present desired me to produce some for their use. I informed them that I had no apparatus for preparing or preserving the gas, but that I had a medicine (sulphuric ether) which would produce equally exhilarating effects: that I had inhaled it myself, and considered it as safe as the nitrous oxide gas. One of the company stated that he had inhaled ether while at school, and was then willing to inhale it. The company were all anxious to witness its effects. The ether was introduced. I gave it first to the gentleman who had previously inhaled it, then inhaled it myself, and afterwards gave it to all persons present. They were so much pleased with the exhilarating effects of ether, that they afterwards inhaled it frequently and induced others to do so, and its inhalation now became fashionable in this country, and, in fact, extended from this place through several counties in this part of Georgia."

We may note that R. H. Goodman, one of the persons who participated in an ether frolic in Jefferson, made an affidavit in 1853, stating this fact and also that he removed to Athens, January 20, 1842, and introduced ether frolics in that community. It is interesting to observe that Long had inhaled ether before the first ether frolic, and that, repudiating the teaching he had received as a student, he regarded it as being as safe as nitrous oxide. To continue Dr. Long's narrative: "On numerous occasions I have inhaled ether for its exhilarating properties, and would frequently, at some short time subsequent to its inhalation, discover bruises or painful spots on my person, which I had received while under the influence of ether. I noticed my friends, while etherized, received falls and bangs, which I believed were sufficient to produce pain on a person not in a state of anesthesia, and on questioning them, they uniformly assured me that they did not feel the least pain from these accidents. These facts are mentioned that the reasons may be apparent why I was induced to make an experiment in etherization."

"The first patient to whom I administered ether in a surgical operation was Mr. James M. Venable, who then resided within two miles of Jefferson, and at present (1849) lives in Cobb County, Georgia. Mr. Venable consulted me on several occasions in regard to the propriety of removing two small tumors situated on the back of his neck, but would postpone, from time to time, having the operations performed, from dread of pain. At length I mentioned to him the fact of my receiving bruises while under the influence of the vapour of ether, without suffering, and as I knew him to be fond of and ac-

customed to inhale ether, I suggested to him the probability that the operations might be performed without pain, and proposed operating on him while under its influence. He consented to have one tumor removed, and the operation was performed the same evening. The ether was given to Mr. Venable on a towel, and when fully under its influence, I extirpated the tumor. It was encysted and about one-half inch in diameter. The patient continued to inhale ether during the time of operation, and when informed it was over, seemed incredulous, until the tumor was shown him. He gave no evidence of suffering during the operation, and assured me after it was over that he did not experience the slightest degree of pain from its performance. This operation was performed on March 30, 1842."

When Long finished that operation he must have felt a sense of combined wonder, exultation and responsibility. It was a brave thing to operate under the full influence of a drug when all professional teaching was that it required large amounts of the vapour to produce unconsciousness, and that large amounts were dangerous. Had the patient died, the doctor would have had a lifelong self-reproach and would possibly have been sued or prosecuted for manslaughter.⁶ It was brave of Venable to take the chance. Wonder would naturally arise in Long's mind as he thought of the agonies inflicted by the surgery he had seen in Philadelphia and New York, as compared with the perfect tranquillity of the patient just operated upon. Exultation would be inseparable from the accomplishment of what the masters of surgery regarded as impossible. A sense of grave responsibility would be in a man who believed he had done a mighty thing, but felt the necessity of proving it thoroughly in order that he might not mislead others and do harm.

He saw the beneficent light break into the dark dungeons of pain. He must have felt as did Sinbad, the Sailor, when, from the living tomb in which he was immured, he saw the glad rays of the sun. He and his companions might well have exclaimed with the ancient Mariner:

"We were the first that ever burst, into that silent sea."

That is the story of the first use of ether inhalation to still the pains of surgery.

* * *

What of the personality, the character, of the man who discovered anesthesia? In August, 1842, he married Mary C. Swain. It was a peculiarly happy union. His wife was an intellectual woman and a thoroughly congenial helpmate. She was the inspiration of his life. She fitted herself to understand and sympathize with all his wants and needs. They were real lovers when they married and remained lovers until death parted them. He remained a resident of Jefferson until 1851, when he removed to Athens, Georgia. He lived in Athens until his death, in 1878, and practiced there continuously except during his service in the Confederate Army.

For nearly thirty years he was in very active practice, was in the habit of riding miles through the country, and endured all the hardships of a busy

⁶ Quoted from Buxton's article on Long in the Proceedings of the Royal Society of Medicine, January, 1912.

⁶ Many of Long's friends begged him not to administer ether again, telling him that if anything happened to a person under ether the doctor responsible would be mobbed. But Long did give it again.

country practitioner. No man was ever loved more. All his patients were his devoted admirers. His personality impressed itself upon them. He was counselor and friend as well as physician. He always placed the welfare of his fellows before his own. He was more than a great man, he was a good man. He was one of those rare individuals who really practice their religion. The words of his faith were not mere empty formulas, as with so many, but were mandates to fine deeds. He carried with him through life no ignoble rancor. Disappointment there must have been but there was never hatred of his fellows. He had been excluded from honors that were justly his but he never kept the thought of it as "something bitter to chew on when feeling Byronic." He in no sense became that desolating human calamity, an embodied grievance. A grievance wears out sympathies and tires out our appreciation. There was nothing morbid in his temperament. He never scoffed at Destiny or denounced Fate. He never claimed to be an unappreciated spirit or a misunderstood soul. He calmly went his useful way, tending the sick, aiding the needy, caring for his own, sure of himself, confident of the future, never boasting, never brooding, kindly and fair to all, generous ever to opponents, courteous even to critics, and making no struggle for stained wreaths or for tarnished rewards. He was a complete man, a rounded character, a true physician, and when we honor him we find no apologies necessary. He never tried to patent and thus coin into dollars a discovery which has brought and will bring comfort unspeakable to countless thousands of the race. He thoroughly loved his profession. He said: "I am as much called to practice medicine as a minister is to preach the gospel!"

He accepted all medical tasks as commands which he was glad to be thought worthy to receive and fit to execute.

He had that splendid combination, strength and tenderness. He inspired trust. Surely he must have done so, else Venable would never have taken ether to unconsciousness. He was wise and self-confident, else he would never have given Venable ether to unconsciousness when all the leaders of medicine taught that such doses were highly dangerous.

He was full of sympathy for suffering and cared for the lowliest as for the richest. He was gentle, forbearing, faithful to every duty and every instinct. He was always dignified and usually reserved, relaxing at times into gaiety in his family circle among those who knew him well. He had a vein of humor, was given to jests when by his own fireside, and now and then sent humorous sketches to the local newspapers. He was simple of heart, and pure in word and act.

He was a close observer; a hard worker; was honest in thought, word and deed—hated all lies and anything that even savored of deception. His life was lived in the light of day without any stratagems or pretenses. He was straightforward and unsuspicious, hated to hold ill opinions of anyone, and only a native ability to judge character saved him from frequent impositions. His family adored him. He liked to read aloud to his children and brought them up on the works of Scott, Dickens, Shakespeare and other master minds. He was particularly fond of Hamlet. At bed time he followed the old time custom of reading the Bible to the as-

sembled family. He was fond of whist and was one of the best of players. He was devoted to farming, was a good business man and an excellent executive.

In slavery days he was, as were most Southern gentlemen, a kind master to his slaves. He believed that slavery was a plan of Providence to civilize the negroes. He thought that to own slaves was a great and terrible personal responsibility, a responsibility which he ranked close after the one owed to his wife and children. In an old journal he writes: "God grant that I may be a tenderer husband and father and a better master." When his slaves had become free he still watched over their welfare, cared for them when sick, relieved their necessities and gave them useful council. The blacks loved and trusted him as much as did the whites.

He had a great reverence for womanhood. He would carry a basket for the lowliest woman with the courtly air others might show to a princess. A veritable termagant used to haul wood into town to sell. Again and again when he met her he bought the load and took it to his own house. On one occasion Mrs. Long said to him: "We have plenty of wood, why do you always buy that woman's," and he said, "because I hate people to see a woman doing man's work." He would go any distance and attend the poorest negress in labor because of his sympathy for those in the pains of childbirth and his reverence for maternity.

At the unveiling of the monument in Jefferson, Dr. Woods Hutchinson said that Long was in many respects in advance of his day—that he treated and cured consumption by food, fresh air and tonics—that he treated typhoid fever practically as we do now—that he treated that very dangerous disease bilious fever by quinine when few did so—and that he operated many times very successfully for cancer of the breast, always clearing the ribs and removing the axillary glands. (Munsey, August, 1911.)

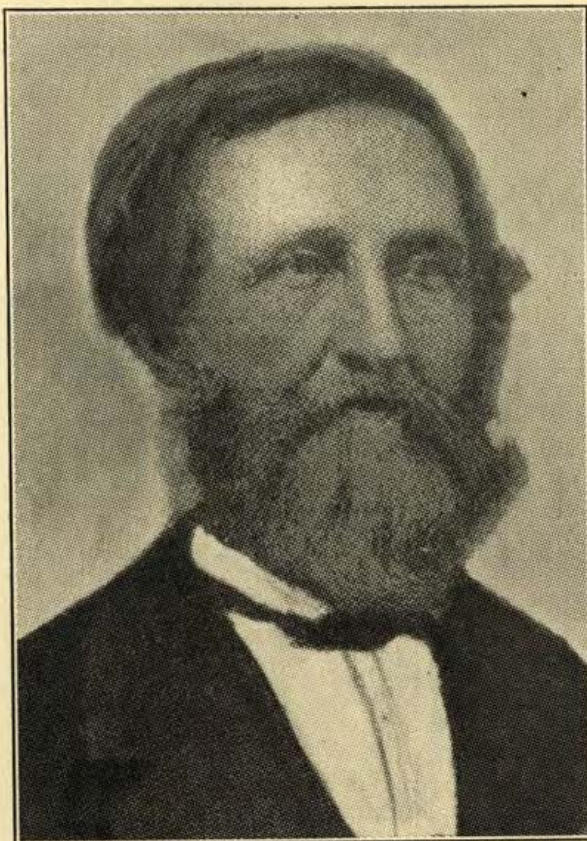
It is interesting to note that he never charged more than one hundred dollars for a "breast operation," even if the patient was very well off.

He was a Whig in politics and strongly opposed to secession. When Georgia resolved to go out of the Union Long said: "This is the saddest day of my life." Naturally he stood with his own people and went with his state. He entered the Confederate army and served through the war. Like all his friends he lost everything by the war, and he suffered along with them the horrors of reconstruction and the infamous tyrannies of carpet-bag rule. Soon after the war Long was offered the position of United States Contract Surgeon to help care for the many sick and wounded soldiers in Georgia. He was not even asked to take the oath of allegiance. The fifty dollars a month, paid him for his work, came as a blessing in those dark days of poverty. After some years he again became prosperous.

Once, when his health was impaired by over-work, his friends and family urged him to take a holiday, but he said, "my sick need me."

In his 63rd year he was struck by apoplexy when at a sick woman's bedside. The moment he recovered consciousness he asked how she was. Before he passed into the unconsciousness which was to end in the long sleep and the silent house, he gave directions for the sick woman's care. He was faithful to duty to the last. He died June 16, 1878.

Such was Crawford W. Long. The University of Pennsylvania this day hangs his likeness in the Hall of Fame with her noblest sons. He was an honor to his alma mater, an ornament to his profession, a glory to his country, and a benefactor of the human race.



CRAWFORD W. LONG, M.D.
Of the Class of 1839 Medical.

REPLY BY HON. SAMUEL J. TRIBBLE.

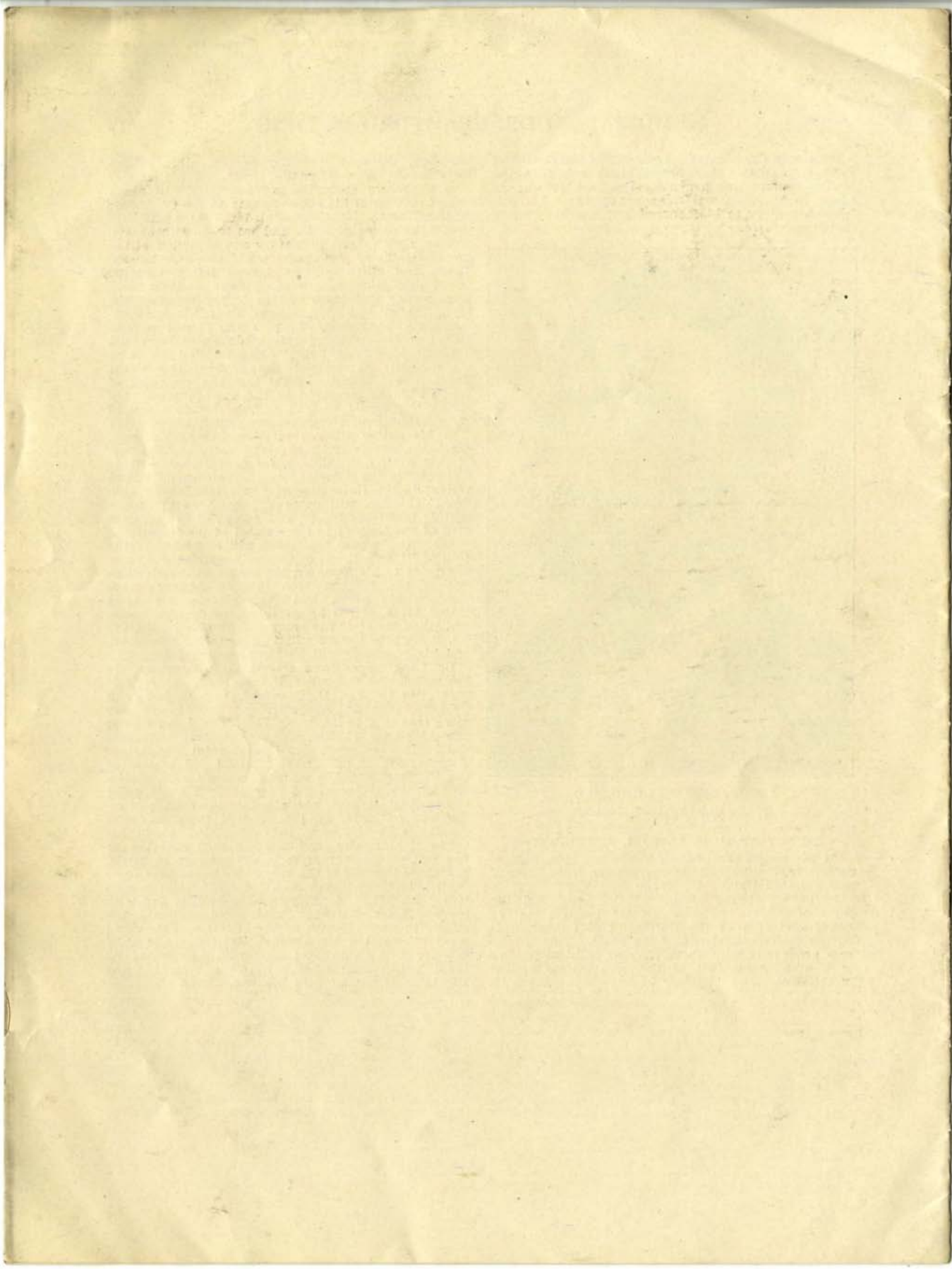
At the conclusion of the ceremonies, Hon. Samuel J. Tribble, United States Congressman from Georgia, spoke as follows:

In behalf of the family of Dr. Long and the State of Georgia, I thank you, Mr. Provost, for the honor conferred by the University of Pennsylvania on the distinguished son of my State. This tribute to a great man with no military or political renown is a high testimonial of the progressive thought of this University. History loves to honor the hero.

The boy, the man, yea the woman, all are hero worshipers. Alexander the Great led his armies into all known countries and humanity will never tire of reading of his achievements as the Conqueror of the World. Napoleon scaled the Alps and laid waste the plains of Italy, and we read, with charm, volume after volume in history and in fiction of the greatest military genius the world has ever known. These and other military heroes left devastated fields, desolation and want, widows and orphans, pain, sorrow and death written on the pages of history. To-day you erect a Long Medallion and commemorate the memory of a man who carried no military trophies to his grave, made no widows and devastated no fields, but, sir, he alleviated the pains of humanity throughout the earth. The Great Teacher—our Master—taught that the greatness of men should be measured by the good they do. Applying this mould to Dr. Long, he becomes one of the greatest men of modern or ancient times.

In his native village in Georgia there has been erected a marble shaft to his memory; to the foot of that shaft our children, for generations, will go and point to the name of this great Georgia Humanitarian; to the University of Pennsylvania your children's children will come and point to the name on this tablet erected by you, as one of the greatest men of the Nation; to the Capitol of the Country at Washington, where his statue will be placed in the Hall of Fame, citizens of foreign countries will come and point to his name on the statue in that Hall as one of the greatest men the world ever knew. Georgia, his home, and Pennsylvania, his Alma Mater State, strike hands to-day to do him honor, and when his statue is erected at the National Capitol, the whole Nation will join us in the memorial, and his greatness will be glory enough for all.

Dr. Long comes from a section of statesmen. In the radius of a few miles, if time permitted, I could point you to Wm. H. Crawford, who ranked with Calhoun, Clay and Webster, and needed only one more vote to give Georgia a President; I could point you Alexander H. Stevens, the greatest statesman the South ever produced; I could point you Robert Toombs, one of the greatest minds and orators of the Union; I could point you to the Cobbs, statesmen of the Webster and Clay type; I could point you to Benj. H. Hill, who stood, in the breach of reconstruction days, on the floor of Congress, eyes flaming with defiance, and yet rising above his sectional animosity, and uttering such speeches as "we felt your heavy arms in the carnage of battle, and above the roar of the cannon we heard your voice calling, brothers, come back"; I could point you to Henry W. Grady, bearing an olive branch, and with his matchless eloquence, wiping out sectional animosity in every section of the country. These, and many others: but Mr. Provost, last but not least of this array of greatness, I point you to Crawford W. Long, not a statesman, not a war hero, but the alleviator of human pain the world over.



7 Hall of Fame

Advance Sheet from "Old Penn." Vol. XIV., No. 1, October 2, 1915.



DOCUMENTARY EVIDENCE BEARING UPON DR. CRAWFORD W. LONG'S DISCOVERY OF ETHER ANESTHESIA.

By Allen J. Smith, M.D.

It may be recalled that on March 30, 1912, the seventieth anniversary of the first use of sulphuric ether as an anesthetizing agent in surgical operative procedures, a bronze medallion tablet was unveiled with appropriate exercises in the Medical Laboratory Building of the University of Pennsylvania as a memorial to Dr. Crawford Williamson Long, the discoverer of this great boon to humanity, a graduate of our medical school in the class of 1839. There appeared in "Old Penn" at the time an account of these exercises together with the formal addresses delivered by Drs. J. Wm. White and J. Chalmers Da Costa, and with the response of Hon. Samuel J. Tribble, Member of Congress from Georgia, on behalf of the family of Dr. Long and of Dr. Long's native State, Georgia. But it is not generally known that as mementos and in a sense as a trust, there were deposited in the Medical School at this time an oil portrait of Dr. Long, executed and presented by his daughter, Miss Emma Long; and by another daughter, Mrs. Frances Long Taylor, a number of photographic reproductions of documents of importance in establishing beyond cavil the priority of Dr. Long in the discovery and successful application of ether anesthesia in surgery. The originals of these documents are in the custody of Mrs. Taylor in Athens, Georgia, although it is hoped that when time is ripe they may be deposited in the archives of the University of Pennsylvania for final keeping. By permission of Mrs. Taylor the writer is permitted to reproduce a series of these documents in "Old Penn," the text of this article being intended merely as introductory to the subject and as a guide to the examination and interpretation of these occasional pages from letters, record books and attested certificates.

The real magnitude of the discovery of ether anesthesia and of its influence upon the world are scarcely conceivable without serious reflection by us to-day. We must fancy the pain and tortures of unavoidable surgical operations in the old days, the utterly inadequate methods then used to numb the sensibilities of the subjects by whisky and opium, the shock of the agony to the system, the numberless cases abandoned to death when proper operation might have saved (and that fundamentally because of the fear of the operation itself), and we must try to realize the vast progress which surgery has gained in the interval, never possible had ether anesthesia or some equally efficient method of pain-eliminating interference not

been learned. It is not too much to say that this discovery was absolutely essential to all that modern surgery and its allied branches in the various surgical specialties and obstetrics stand to-day.

Doubtless as a student in Philadelphia and observer in the hospitals of New York (where he betook himself for eighteen months after his graduation here in 1839), Long's mind was filled with the crying need for some efficient anesthetic agent. Ether had been known for centuries; was used in various ways in therapeutics and had been given by inhalation in cases of pulmonary phthisis; it was known that if inhaled in concentration it would stupefy; and it was from time to time inhaled in dilute concentration by the adventurous to produce exhilaration and intoxication. (There is evidence that Long had partaken in at least one such "ether frolic" in the North before returning to Georgia to practice his profession.) But such stupefaction was feared and avoided in the then legitimate use of the drug and certainly it was not known that with appropriate care this unconsciousness might be utilized and maintained to insure absence of pain during the performance of surgical operations. Returning in 1841 to his home in Jefferson, Jackson County, Georgia, he unquestionably was in position to advance to the reality of accomplishment. About this time a fad had arisen in various places of inhaling nitrous oxide ("laughing gas") for its exhilarating effects (although the application of this substance for surgical anesthesia was not put into effect by Wells until 1844). Long was asked by friends to give them the opportunity of experiencing this new sensation; but at a loss to provide the gas he suggested sulphuric ether as equally efficacious to cause the excitement and as equally safe. A series of "ether frolics" were indulged in, at first in his office, but afterwards as a common amusement in various places in the town and country, the habit spreading at least as far as Athens, Georgia, perhaps twenty miles away (Plate I). In such experiments Long noted the fact that he himself sometimes became subject to bruises, for which he had no appreciation of a violent or painful cause; he noted falls of others sufficient to have ordinarily caused pain, but apparently without the least sense of pain on the part of the individuals concerned. From such experiences he unquestionably learned the anesthetizing power of the drug. Sometime in the latter part of 1841, stated by Goodman to have been in November (but said by

Jefferson Feb 1st 1842

Dear Rob

I am under the necessity of troubling you a little, I am entirely out of Ether and wish some by tomorrow night if it is possible to receive it by that time - We have come girls in Jefferson who are anxious to see it taken
- Your friend
C. Wiley.

I Certify that on the first of January 1842 I resided in Jefferson Jackson County Georgia and that about that time myself with several other young men were in the habit of meeting at Doct. C. W. Long's Shop, and other rooms in the Village and inhaling ether which he administered to us, - We took it for its exhilarating effects, - On the 20th of January of the same year I returned to Athens in the above named State when I introduced the inhalation of ether.

I and several of my young associates frequently assembled our selves together and took it for the excitement it produced, after that I know it became very common to inhale ether in Athens and that it was taken by a great many persons in the place, and was frequently taken in the College Campus and on the streets

August 4th 1849

R. W. Goodman
of the firm of Matthews Goodman & Co
of Athens Georgia.

This letter written to me by Dr. C. W. Long in which he ordered the Ether that he performed the first surgical operation on a patient under the influence of that drug - a wen was removed from the neck of a young man - Mr. James Venable without giving him any pain - it was a complete success - this statement is true as I learned it from Dr. C. W. Long R. H. Goodman

Mr. Robert Goodman

Athens

Geo

In November 1842 Dr C. W. Long told me that he had an operation could be performed without the patient feeling pain by giving him Ether or kaly in April 1842 he told me his experiment on James Venable was successful I also saw James Venable the same Spring who told me that he felt no pain during the operation

R. H. Goodman

Witnessed

Mr. W. K. Cobb
(Mrs. Horrell Cobb)
Gallie Pope Stanley
October 10. 1905

James Menable

To Dr C. W. Long

1842.

January 28 th	Sulphuric Ether	25-
March 30	Ether & Extracting Turpene	2.00
May 13	Sulphuric Ether	25-
June 6	Extracting Turpene	2.00

Georgia

Lac Koon County

J. F. Hinton

Clerk of the

Superior Court of said County
do certify that the above account
is a correct copy of an original
entry made in his Book for
Medical services for the year
1842.

Given under my hand
& seal of office this 27th of March
1842.
P. F. Hinton, Clerk, S.



Georgia }
 Clark co } I Edmund I Rawls of Rome
 Floyd co. Ga on oath depose
 & say that I resided with my father in
 Jackson co Ga the year 1842 and was a pupil
 of Wm M. Thurmond who then had charge
 of the Academy in the village of Jefferson.
 During that year I frequently inhaled
 Sulphuric Ether, for its exhilarating effects
 in the office of Dr C. W. Long and at other
 places in the village of Jefferson & was
 well acquainted, & with the smell of
 Ether and the effect of its inhalation
 On one occasion during that year I was
 present with James M. Venable in the
 office of Dr C. W. Long in Jefferson Jackson
 Co Ga and witnessed Dr C. W. Long cut
 out a tumour from the side of the neck
 of J. M. Venable while said Venable was
 fully, under the effects of the vapor of
 Ether inhaled from a towel and without
 his exhibiting the least symptoms of
 suffering ~~and~~ pain from the operation.
 After the tumour was removed J. M. Venable
 was so unconscious of the operation having
 been performed that he would not believe
 the tumour was removed until it was
 shown him by Dr C. W. Long O. R. H.

Mr. Venable asserted that he was entirely unconscious of the performance of the operation and did not feel the least pain from the its performance

This operation I am positive was performed during the year 1842 while I was a pupil of Mr. H. Thurmond as it was the only that year he had charge of the academy in Jefferson

I am not positive I was present when Dr. C. W. Long removed the second tumour from the neck of J. M. Venable but if not present I recollect distinctly hearing him say soon after the tumour was removed that it was cut out while he was under the anæsthetic effect of G. Ether and that he did not suffer pain from the operation

I conversed with J. M. Venable frequently during the year 1842 and he ~~positively~~^{uniformly} asserted that he did not suffer pain from the operations

Sworn to and subscribed before me
this 2nd November 1853

C. L. Kirtland J. H.

C. Y. Rawls

PLATE V.

members of the Long family to have been in December), he stated categorically his belief that ether inhaled would serve for anæsthetic purposes (see Plate II). The exact time when this belief took form in Long's mind and the particular date in 1841 that he so expressed it matter little; he undoubtedly arrived at the conclusion at least a month or more before the idea occurred to Dr. C. T. Jackson, of Boston, one of the early claimants to the honor. Jack-

son, in February, 1842, accidentally inhaled chlorine gas. Because of the relief obtained from ether inhalation for the spasm and discomfort of his throat (a recommended remedy for these results of chlorine inhalations), he conceived the idea that ether might be employed as an agent for surgical anæsthesia. He did not at any time put the idea into practice; did not communicate it until the following year, then merely verbally to a number of medical friends; and in 1845

2.
 Georgie. I, James E. Hayes, of the County and
 Jackson County, State aforesaid, do state, that I was
 a pupil in the Academy in the Village
 of Jefferson, Jackson County, Georgia, in the year 1842,
 then under the charge of William A. Thimmond.

Some time during that year, I was present in the
 office of Dr. C. W. Long, then of Jefferson, but now of Athens,
 Georgia, and witnessed the said Dr. Long cut a tumor or
 wen from the neck of James M. Venable, now deceased,
 while the said Venable was under the influence of
 Sulphuric Ether, produced by the inhalation of the
 same. The said James M. Venable, seemed entirely
 unconscious of the performance of the operation, and insensible
 to pain until an instant before the operation was finished.

The operation required some time for its performance.
 I know I can not be mistaken in the year the operation
 was performed, nor in the fact that it was Sulphuric Ether
 inhaled by said Venable. I had previously and frequently
 seen Sulphuric Ether inhaled, and was well acquainted
 with its smell. I think there was but little difference
 in my age and that of said James M. Venable, and, to the
 best of my information, we were both, at that time about
 the ages of twenty one years.

The operation was publicly performed, and Dr. Long
 made no attempt to conceal the character of the article
 inhaled, nor made any request that the result of the operation
 should be kept secret.

The operation witnessed by me, was the second one per-
 formed by Dr. Long, on said James M. Venable. Over

Atlanta D. Hall Co. Geo.

April 3rd 1853

C. W. Long M. D.

It affords me pleasure to Certify & I do hereby affirm that I saw you perform an operation upon Mr. James M. Venable to wit the cutting out & removing of a Tumor from the neck of the said James M. Venable.

The operation was performed when Mr. Venable was under the influence of Sulphuric Ether produced by inhaling the same. I was intimate with Mr. Venable at the time of the operation; & afterwards frequently conversed with him upon the subject & he often told me that the operation produced no pain. The operation was performed in the Town of Jefferson Jackson County & State of Georgia in the year One Thousand Eight Hundred & Forty Two. Yours &c.
Wm. H. Thurmond.

PLATE VII.

or 1846 suggested it to Dr. W. T. G. Morton, who applied it in the latter year successfully.

Long, however, in a few months was able to try out practically his belief. Among the group who took part in his "ether frolics," and therefore familiar in some measure with the effects of the inhalation, was one James Venable, who had, on several occasions, consulted Long in respect to two small tumors (wens) on the back of his neck, but who because of

apprehension of pain had declined to have them cut away. On March 30, 1842, he permitted Dr. Long to administer ether to him with the understanding that when unconscious the surgeon was to remove one of the two growths; and this was done, the second being removed also under ether anesthesia on June 6 following. Venable was entirely insensible during the whole of the first operation, knew nothing of the removal of the growth, and after recovering conscious-

1843 No 40
 I certify that some time before
 the summer of 1843, Dr. C. W. Long
 cut out three wens from my head.
 He gave me some medicine to enable
 me with cutting out one of the wens
 and I suffered no pain from the opera-
 tion. The pain was very great
 in cutting out of the other wens.
 Sept 11th 1847
 Mary Vinson
 No 18
 I certify that some time and interrupted long
 at the wens and know the fact stated in
 the certificate signed Mary Vinson to be true.
 Sept 17th 1847
 William Vinson

PLATE VIII.

ness would not believe that it had been removed until the excised tumor was shown to him by Long. In the second procedure he felt no pain except slightly at the last moment of the procedure. Reference is made to the first operation in Goodman's first endorsement on the back of Long's letter, shown in Plate II.

The account against Venable for both operations and the ether used therein is reproduced in Plate III, from Long's account book for 1842, along with attestations of correctness of copy by P. F. Hinton, Clerk of the Superior Court of Jackson County, Georgia. The deposition of E. S. Rawls, reproduced in Plates IV and V, bears upon the operation performed on March 30; that of James E. Hayes, reproduced in part in Plate VI, refers to the operation of June 6, 1842; the certificate of Wm. H. Thurmond (Plate VII) presumably to the operation of March 30, 1842.

One may, of course, refer for fuller accounts of these matters concerning the conception and realization of Long's great object to the publications of Long himself ("Southern Medical and Surgical Journal," December, 1848), to Jackson's retraction of his claim to the discovery when he learned of the work of Long, both to Congress ("Congressional Record," Senator Dawson, 1854), and the medical profession ("Boston Medical and Surgical Journal," April 11, 1861), and

to a long and growing series of historical and appreciative articles (as Buxton's "Crawford Williamson Long, the Pioneer of Anesthesia and the First to Suggest and Employ Inhalation During Surgical Operations"; Young's "Long, the Discoverer of Anesthesia," etc.); but the purpose of the present text is limited to the presentation of the series of documents, the photographic copies of which are deposited in the Medical School of the University of Pennsylvania, with no more comment than seems justified in properly relating these. This, of itself, in reality covers all the essential points, and the writer refrains purposely from the inviting fields of collateral evidence, the history of the "ether controversy" before Congress, extending from 1849 to 1854, and the argumentation as to the merits or demerits of Long's failure to publish to the world by printing his discovery until driven to do so by the controversialists, etc. But it may readily be seen from the remaining reproductions that assertions that Long failed to make known his discovery or that he abandoned the use of ether anesthesia are entirely incorrect. Plate VIII contains the certificate of Mary Vinson and of her husband, William Vinson, that sometime during the summer of 1843 Dr. C. W. Long removed three wens from the head of Mrs. Vinson, that the first was removed without pain to the patient because during

State of Georgia } Personally appeared before me Thomas Stapler
Jackson County } one of the acting Justices of the Peace of said
County Mary Vinson who being duly sworn
deposed and says that the certificate is true which I gave to
Dr C W Long in the year 1847 in regard to his cutting at three
tumors from my head before cutting and one of them he gave
me some medicine to inhale and I felt no pain at the time
this ~~operation~~ operate was performed but suffered severely during
the cutting out of the others which were taken out without being
under the influence of the inhalation of the medicine
sworn to and subscribed before me
this 12th day (December 1853) Mary Vinson
Thomas Stapler J.P.

Georgia } I do hereby certify that I was present &
Jackson County } saw William Vinson sign the certificate
with his wife Mary Vinson and that it was
in his last illness in the year 1847 and that he died shortly
thereafter ~~on~~ the 13th day December 1853
Thomas Stapler J.P.

PLATE IX.

its removal Dr. Long gave her "some medicine to inhale," while in the removal of the other two inhalation was not practiced and that in case of these the pain of operation was intense; and verification of these certificates is presented in the affidavits presented in Plate IX. Unquestionably the purpose of demonstration of the anesthetizing influence of ether inhalation underlay this method of Dr. Long in removing one of the wens from Mrs. Vinson's head under etherization and the other two without such preparation. The same method follows in the amputation of two fingers from a negro in 1845 (see attested statement of G. L. Thompson, Plate X); and the sworn statement of Dr. J. F. Groves (Dr. Long's first medical student), partly reproduced in Plates XI and XII, covers this point completely in expressing the opinion that it was done "to prove before competent witnesses, that the insensibility to pain was due to the agent used." (It should be recalled that at about this time "animal magnetism" or hypnotism was, to some extent, advocated as a means of surgical anesthesia, and doubtless some question was

raised among critics as to whether Long had not in reality exercised a hypnotic influence instead of producing a drug anesthesia.) In 1844, in the early part of the year, Long extracted a tooth from the mouth of Mrs. James H. Hayes under etherization (see reproduction of sworn statement of James H. Hayes in Plate XIII, which bears collaterally also upon the Venable operations of 1842); and in November or December of the same year he induced Dr. Joseph B. Carlton, of Athens, Georgia, to extract a tooth from a boy under the influence of ether inhalation. Dr. Carlton was the second man to perform a surgical operation with the aid of ether anesthesia and this nearly two years before Morton's independent discovery and demonstration of ether anesthesia (see Plate XIV). In 1845, the amputation of the fingers of a negro boy above mentioned was performed (see Plates X, XI, XII).

In the summer of 1846 Long extracted a tooth under ether anesthesia from the mouth of Mary E. Ware (see Plate XV).

It was in September, 1846, that Dr. W. T. G. Morton,

Georgia } I Emel S. Thompson, certify that
Jackson Co. } I was present and witnessed Dr Croxall,
in the year 1845, cut off two fingers of
a negro boy Isaac, the property of my father
in Law, Ralph Bailey sen - Before cutting
off one of the fingers, Dr Croxall gave the
boy Isaac, Sulphuric Ether to inhale from a
towel or cloth and while under the influence
of the Ether, cut off the finger without the
boy showing the least sign of suffering pain -
I have also heard the boy speak of the operation
since and he always asserted that he did
not feel the least pain when the operation
was performed - The other finger was
cut off without the boy being under the
effects of the Ether and the operation was
painful - The operation was
performed without any attempt to conceal the
nature of the article used, Dr C. W. Loring, stated
that the article used was S. Ether, ~~and~~ -
I had previously seen S. Ether inhaled, ~~and~~
from the smell and effects, know, it was
Sulphuric Ether inhaled by the boy Isaac -
I won to and subscribed
before me this 2nd March 1854. G. L. Thompson
N. H. DeLongor, J. P.

PLATE X.

who has been very commonly credited with the priority of discovery of ether anesthesia in surgery, first used sulphuric ether at the suggestion of Dr. C. T. Jackson, for the extraction of a tooth; and in the following month demonstrated in the clinic of John Collins Warren, in the Massachusetts General Hospital, the value of this agent in general surgical anesthesia. Sustained by the circumstances of the place of demonstration, in Boston as a notable medical cen-

ter, and by the authority of Warren, whose name counted in surgery abroad as well as in this country, the fame of Morton's work spread at once over the world; and no one can dispute with their advocates the honor of independence of appreciation of the possibilities of ether anesthesia by Jackson and of demonstration of Jackson's suggestion by Morton. But that Crawford W. Long, alone in an isolated rural community, under no inconsiderable opposition by his

X ^{7th Page.} Account of operation 1845 by Dr. Long's
first student who assisted him in the admin-
istration of the ether.
Closing lines of preceding page. This in the two years preceding
my entering Dr. Long's office he had *

* only about six cases in which to try the
anaesthetic effects of ether. * The first case
that came under his care where its use was
applicable after my going into his office
was not till January 8th 1845 which was the
case of a negro boy having two fingers to ampu-
tate, caused by a neglected burn. I as the only
student, still, with the Doctor he had me to ac-
company him to see the operation and assist
in the administration of the ether. The first
finger was removed while under the influence
of ether, the little fellow evincing no pain, the
second without ether, the child suffered extremely.
There were two gentlemen present as witness-
es of the whole proceedings. The question has
been raised as to the reason why Dr. Long used
ether in one amputation and not in the other?

Evidently to prove before competent witnesses
that the insensibility to pain was due to the
agent used to produce that effect. Being the same
patient, at the same time, and operations of like

Page 8. is omitted as it does not relate to the operations described by Dr. Lyons on whom he anaesthetized the patient in 1843.

doubt that Dr Crawford W Long was the original and first discoverer of Modern Anaesthesia. The claims of all other men paled beside the facts that prove his priority. His own statements of his reasons for not sooner publishing to the world his discovery only show the conscientious, cautious nature of the man, and add strength to his claim.

At the request of Mrs. Frances Long Taylor I have prepared the above statement of facts in regard to her father's discovery of anaesthesia. All of which I certify to be true to the best of my recollection.

The above and foregoing Statements were sworn to and subscribed before me

Dec. 15th 1894

J. F. Groves M.D.

Wm. H. Wilson N.Y. & J.P.

See next pages

PLATE XII.

neighbors and friends, and under circumstances which hampered wide and immediate publicity, had preceded both Jackson and Morton, the documents thus far cited and here presented amply prove.

It is well known how, in December, 1844, the Hartford dentist, Horace Wells, submitted himself to inhalation of nitrous oxide gas at the hands of Dr. G. Q. Colton, a wandering lecturer, in order that in the unconsciousness caused by this agent a brother dentist,

John M. Riggs, might extract a molar from his jaw, as an experiment looking to the great aim of all these men; how on the success of the test, Wells employed the nitrous oxide upon a number of persons in his practice, and in January, 1845, went to Boston, where in the same clinic in the Massachusetts General Hospital the surgeon, Warren, opened to him the opportunity of demonstrating its applicability to general surgery; and how in his failure to produce anesthesia

Georgia } Personally appeared before me
 - Thomas County } James H. Hayes of said County, and
 after being duly sworn deposeeth
 and sayeth that in the Early part of the year
 1844. He called on Dr C. W. Long (who was practicing
 Physic in the Town of Jefferson Jackson County
 Georgia at that time) to extract a tooth for
 my wife. She being in a delicate situation and
 very nervous Dr Long proposed to administer
 to her Sulphuric Ether it being the first
 I ever heard of its being used I objected to
 its being given Dr Long said he had used
 it in Surgical operations in one or two
 cases ~~with~~ without pain to the Patient and
 without any difficulty whatever. and partially
 spoke of cutting a wen or tumor from the
 neck of James M Venable in Confirmation
 of what Dr Long said I have heard James
 M Venable speak of the operation above
 referred to and said it was performed without
 pain to him. I have also heard others speak
 of the same operation that was present and
 saw it. I am not certain whether James M
 Venable or Dr Long told me this operation
 was performed in 1843 or 1842. but I am
 certain the conversation between Dr Long and
 myself with regard to extracting my wifes
 tooth was in the Early part of 1844
 I swear to and subscribed this 12th day of
 December 1853

attest

J B Davis

Notary Public

Thomas Co Ga

James H Hayes

Operation performed by Dr. Joseph B. Carlton, 1844,
The second man in the world to use Ether in
extracting a tooth.

I do certify that Dr Crawford
H. Long of Jefferson, Jackson Co, Ga ad-
vised my husband Dr Joseph B. Carlton
a resident of Athens, Ga, to try sulphuric
ether as an anesthetic in his practice.

In Nov or Dec 1844 in Jefferson Ga
while on a visit to that place and in
the office of Dr Long, my husband
extracted a tooth from a boy who was
under the influence by inhalation of sulphuric
ether, without pain, the boy not knowing when
it was done,

I further certify that the fact of Dr Long
using sulphuric ether by inhalation to prevent
pain was frequently spoken of in the county of
Jackson at this time and was quite notorious

Mrs Emma H. Carlton

Sworn to and subscribed
before

June 29th 1907 Frank Betts
J. Y. Allgrove A. S. Clarke County Ga.

Georgia
 Floyd County
 I, Mary E. Ware
 of Floyd County Ga.
 Certify, that while
 residing near the village of Jefferson in
 Jackson Co. Ga. Dr. C. W. Long extracted
 a tooth for me while under the
 influence of Sulphuric Ether, produced
 by the inhalation of the same from a
 towel or handkerchief and without my
 suffering the least pain at the time
 the tooth was drawn.
 According to the best of my recollection
 and belief, the tooth was extracted in the
 summer of the year 1846. I am
 positive it was extracted by Dr. C. W. Long
 before I ever heard or saw any account
 of any other person using Sulphuric Ether
 for the purpose of preventing pain in the
 extraction of teeth or in the performance of
 any surgical operation —
 February the 15 1854 Mary E. Ware

PLATE XV.

he left Boston, depressed and shocked, and not very long thereafter abandoned his experiments and gave up his professional work. The perfection of the application of nitrous oxide in dentistry and surgery was due to Dr. G. Q. Colton and dates some eighteen or twenty years later; but undoubtedly to Wells is due the honor of its discovery as an anesthetic agent. In 1847 he published a history of the discovery and application of nitrous oxide gas; and this in fact was the only publication in print by any one of these men of their work prior to the great "ether controversy" before the United States Congress, 1849-1854. Morton, with Jackson, had patented ether, mingled with various aromatics to conceal its odor, under the name "Letheon"; but had not invoked the patent right to prevent its general use. However, basing his claim upon an asserted infringement of the patent by the

United States Government through the use of ether in the army in the Mexican War, Morton claimed compensation; and the claims of Jackson and of Wells were also presented. These public claims finally induced Long to make his publication in the "Southern Medical and Surgical Journal," and to gather together some of the certificates and affidavits here reproduced; but he declined to present any claims for remuneration; and not until 1854, five years after the controversy in Congress had been instituted, did he present to Senator Dawson his statements, with a claim "only for recognition of priority" in the discovery. Jackson investigating this claim, at once withdrew his own, and acknowledged Long as having first discovered and used ether anesthesia; and the presentation of Long's evidence resulted in the collapse of the bill for remuneration of all the claimants.

Georgia
Jackson County } I Amede Delaperriere M.D.
Jefferson } Do certify that I reside in
Georgia in the year 1849 and that ~~some~~ sometime
in that year I heard James M. Venable then of
said State and County now deceased speak
of Dr C. M. Long then of Jefferson in the county
of Jackson Georgia now of Athens Georgia
cutting two tumours from his neck while
under the influence of the inhalation of
Sulphuretted Ether without pain or being
conscious of the performance of the operation

I do further certify that the fact of
Dr C. M. Long using Sulphuretted Ether by
inhalation to prevent pain in surgical
operations was frequently spoken of and
notorious in the County of Jackson State
of Georgia in the year 1849—

I do further certify that the said James M.
Venable was born near Paris near Jefferson
and was regarded as a young man of truth
and veracity

Sworn to and subscribed
before me this 30th of March
1854

A. DeLaperriere
M.D.

N. H. Pendergast J.P.

Cousin of Genl De Trobriand
Genl De Trobriand commanded at St. Capin Louisiana

Ms 5 b

Athens Georgia Aug 10th 1878

This certifies, that in the month of May 1843;
I was present & assisted Dr R. D. Moore of this place
in amputating a leg He said to his three
Students (I being one) If I had of thought
of it, before we left home, I would have tried
Dr. Longs discovery. Producing insensibility
by inhalation of Ether.

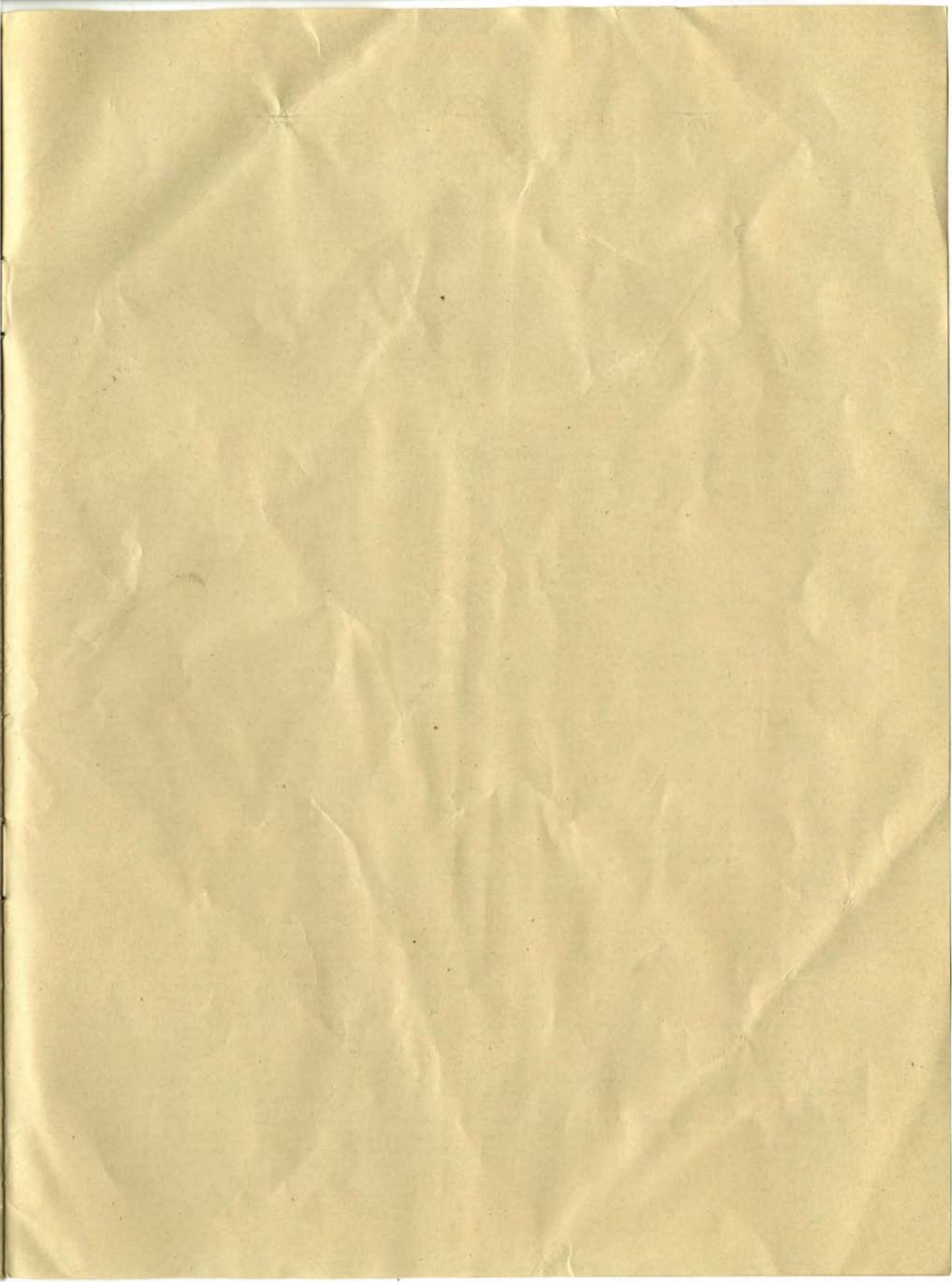
attest
Asa M. Jackson
Professor of
Clinical Surgery Georgia

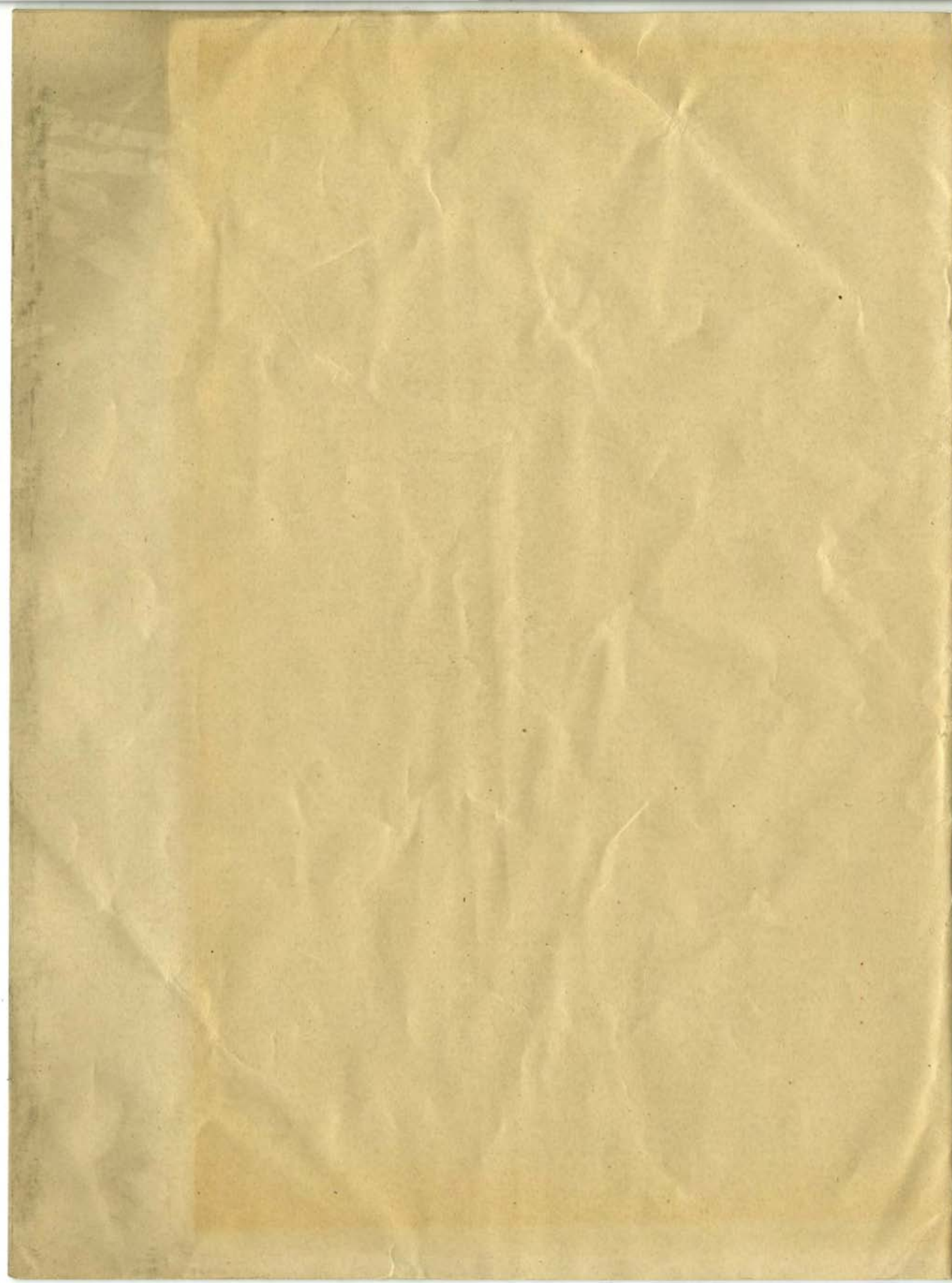
PLATE XVII.

Out of Congress the controversy has continued; but the priority of Long is no longer assailed. The main point as yet in dispute lies in the assertion that honor should be withheld from Long because he failed to make known his great discovery, and should go to Morton for having first brought it to the notice of the world. The truth is that Morton himself, aside from his letter of patent and his claim for remuneration at the hands of Congress, did not publish in print his discovery. The first article upon the subject was published by H. J. Bigelow, of Boston ("Boston Medical and Surgical Journal," November 18, 1846), beyond such notices as appeared in the public newspapers of the use of this novel measure. Nor did Jackson do more toward the dissemination of the discovery. Both, of course, made verbal communications, but both were involved in the patenting of "Letheon," which for a time threatened to lead to a refusal on the part of the Massachusetts General Hospital surgeons to aid in the promotion of ether anesthesia; and in the end the influence and authority of these prominent surgeons was principally responsible for the wide publication and general employment of the method. It was for the lack of equivalent opportunity to fully test and demonstrate his discovery that Long was silent. But there is much evidence that at no time did he in the least conceal from the local public or his professional brethren in Georgia what he was doing. In the Plates thus far presented (notably in Plates II, IV and V, VI, X, XI, XII and XIV) there is every evidence of the openness of his work to public and professional inspection; and in the two remaining ones of the series (Plates XVI and XVII) in our collection, both from members of the medical profession practicing in Georgia, there is clear evidence of the fact of information of the local profession upon the subject.

These reproductions constitute a valuable record; but they present only a part of the full collection of similar documents in the possession of Mrs. Taylor. In themselves they prove beyond cavil the only point that Dr. Long himself ever cared to insist upon, that is that he preceded all others in the discovery and in the utilization of surgical anesthesia by the inhalation of ether. He did not, nor can others deny that Jackson and Morton independently came to the same goal some five years later, or that Wells two years later had reached a similar object with nitrous oxide. As to the matter of priority, both in appreciation of the value of the agent and in its actual use and continued employment, a sentence taken from an original page of Dr. Long's writings, which is included with the collection of reproductions presented to the Medical School by Mrs. Taylor, undoubtedly expresses all he felt: "... the justice of the claim I can never yield, unless satisfied that experiments in etherization were made antecedent to those performed by me."

It is a matter of record (not covered entirely by these reproductions) that Long performed not less than eight minor operations under ether anesthesia before Morton's discovery; and subsequently amputated breasts and limbs with it as adjuvant. But he never, because of ignorant prejudice of the local laity and more or less opposition on the part of the older physicians about him, was able to use it as frequently as would be permitted or even required to-day in the same class of practice. The writer feels that the publication and dissemination of the data here reproduced will be found interesting and valuable to the readers of "Old Penn," and that in a measure, too, this additional precaution for the preservation of these documents in print is a duty the University owes to its distinguished son.





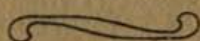
LONG and HIS DISCOVERY

—BY—

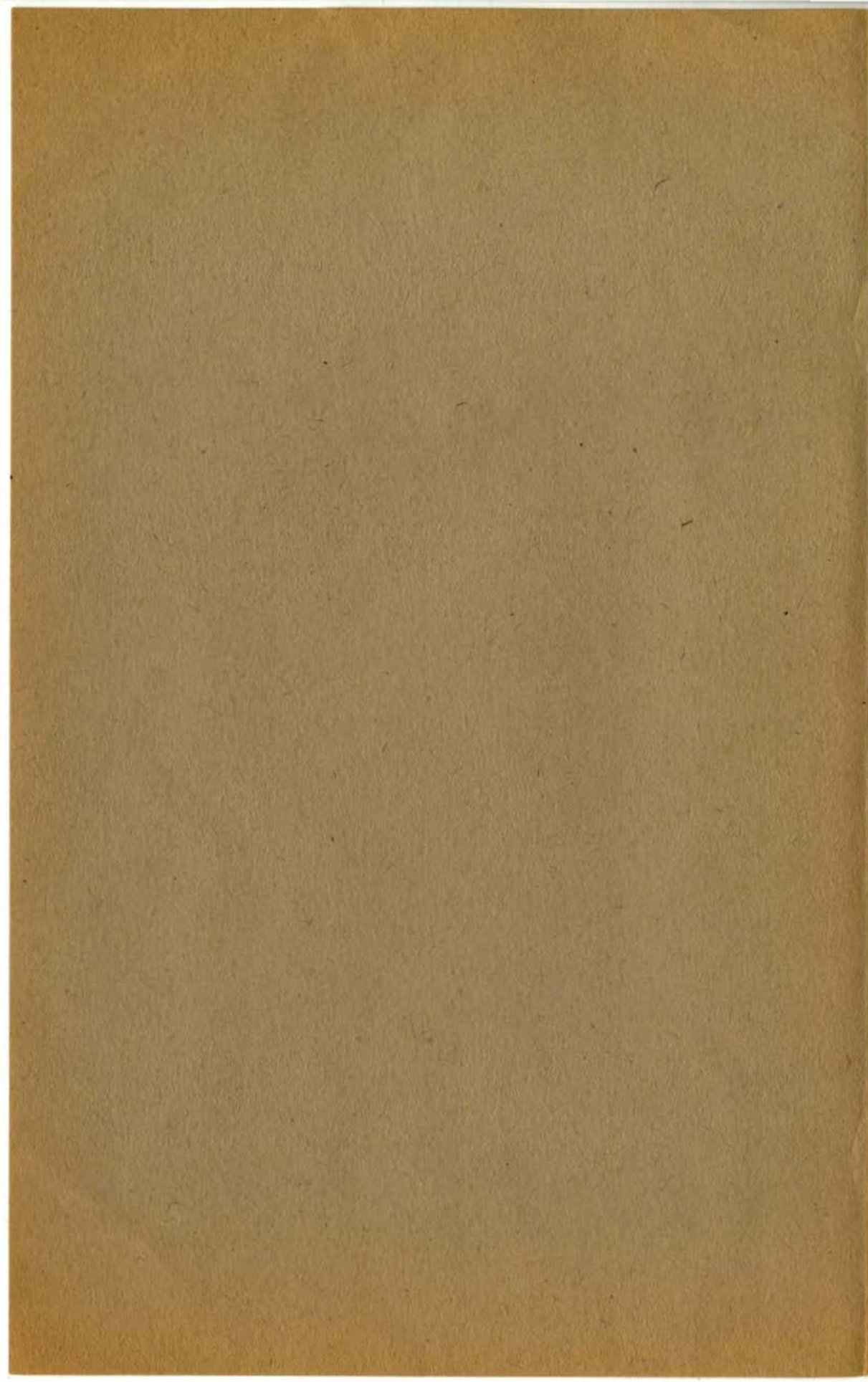
ISHAM H. GOSS, M. D.,

ATHENS, GA.

MEMBER STATE BOARD MEDICAL EXAMINERS, MEMBER
AMERICAN AND STATE MEDICAL ASSOCIATIONS,
MEMBER MISSISSIPPI VALLEY AND SOUTHERN
SURGEONS AND INTERNATIONAL ASSO-
CIATION RAILWAY SURGEONS.



Reprint from Journal-Record of Medicine—November, 1908.



LONG AND HIS DISCOVERY.

BY I. H. GOSS, M. D., ATHENS, GA.

We have been taught that medical operations have been tempered by forms of anesthesia "since the days whereof the memory of man runneth not to the contrary." The suggestion has been made that the "deep sleep" that the Creator "caused to fall upon Adam" was the germ idea of anesthesia. There are traditions that the Assyrians employed digital compression of the carotid arteries to produce anaesthesia; also that the Egyptian used Indian hemp and the juice of the poppy to cause drowsiness before surgical operations.

The Odyssey informs us that a "sorrow easing drug" was given by Helen to Ulysses. The younger Pliny describes the use of mandragora as a narcotic, and Galen speaks of its power to paralyze sensation. In the twelfth-century in Celtic manuscript on materia medica mention is made of a draught which was used by the early Irish to induce sleep; and in the fifteenth century, on occasions of surgical operations, patients were put to sleep by means of that which was termed "The Sleeping Sponge." Reginald Scott, in the sixteenth century, wrote of an anaesthetic made of opium, mandragora bark, and henbane root; and Shakespeare's references to "drowsy syrups" are proverbial. Opium as an anaesthetic—both by inhalation and by internal administration—is declared to have been used in the eighteenth century, and during the same period other means of producing insensibility were suggested.

It were a work of supererogation for me to remind this distinguished presence of the brilliant discoveries in chemistry which created a new epoch in the history of anaesthesia; first, the discovery of Priestly, which led to administering gases and vapors by inhalation; then followed the experiments of Beddoes; the researches of Humphrey Davy on nitrous oxide; the inhalation of sulphuric ether, by Woolcombe, of Plymouth; and the conclusion of Faraday, in 1818, that the vapor of sulphuric ether produced similar effects to those caused by nitrous oxide. All of these valuable discoveries are now as a tale oft told, as is also the fact that Professor Thompson, of Glasgow, amused his students by occasionally permitting them to inhale ether and nitrous oxide until they became unconscious and appeared to be insensible to pain.

Says a well-known writer upon the subject of anaesthesia: "It is extraordinary that among all the investigators who for

so many years stood upon the very brink of a great discovery, no one ventured over the threshold."

That the practical understanding of anaesthesia finally came, and came in an unexpected, indirect way, if such knowledge may ever be called indirect, is known to all within the sound of my voice. It is my privilege and my pleasure today to memorialize the great discoverer of anaesthesia, both because of his valuable work, and because the United States, the State of Georgia, and our medical association may claim him as their own.

On the first day of November, 1815, Crawford W. Long was born in the State of Georgia, in the village of Danielsville, a place of such modest proportions as to merit the affirmation of Washington Irving when he said: "Genius loves to bring forth her offsprings in by-corners. She seems to delight in disappointing the assiduities of art, and to glory in the vigor of chance productions. She scatters her seeds to the winds, and though some may perish among stony places, others struggle bravely up into sunshine."

The ancestry of the discoverer of anaesthesia was highly respectable. His paternal grandfather, Captain Samuel Long, of Pennsylvania, distinguished himself during the Revolutionary War; he was one of General Lafayette's officers at Yorktown, and saw the independence of his country triumphantly established. He moved to Georgia, and here his son, James Long, became a superior scholar, a profound student of the law, was for years a member of the Senate, and was regarded as one of the prominent men of the commonwealth. James Long was an intimate friend of Georgia's great statesman, William H. Crawford, and as a result of this friendly relation he gave to his first born son the name of Crawford.

If it were possible to penetrate the remote and occult sources of character and temperament as they are transmitted from one generation to another, perhaps we might trace the force and beauty which governed the life of Crawford W. Long, to the enduring impressions stamped upon his imagination by the sentiments of his distinguished parentage.

Be that as it may, he certainly had no cause to be ashamed of his ancestry. We have no superstitious veneration for that which is termed "blue blood," especially when it is the reproach of degenerate offspring, but we very properly rejoice with the man who can trace his descent from an honored line.

Crawford W. Long early displayed signs of unusual ability. His primary education was quickly accomplished, and he matriculated at Franklin College—now the University of Georgia—at a peculiarly early age, graduating from this institution when only nineteen, standing second in his class, and receiving the degree of Master of Arts. After studying for one year at the University of Pennsylvania, he was graduated from that renowned institution, where he had largely and successfully devoted time to experimental work. He then spent a year in New York, and while there attained reputation as a skillful surgeon.

In 1841, because of family importunities, Crawford W. Long returned to Georgia. He began the practice of medicine in the village of Jefferson, far from the bustle of the great world, remote from railroads and other necessities of modern life, truly a "nestling place for genius."

Dr. Long, albeit, yet a young man, soon acquired an extensive practice. His abilities were apparent. His quiet, thoughtful bearing attracted people to him. It may be declared that there was more in his *silence* than in the *words* of many men. Throughout life Dr. Long was one of those men whom, according to George Eliot, "we can best know by entering with them their homes, and hearing the voice with which they speak to the aged and young about their hearthstone, and witnessing their careful thought for the everyday wants of everyday companions." He bore a fine character, and "character," says Phillips Brooks, "is like a bell which rings out sweet music, and which, when even accidentally touched, resounds with music."

It was apparent to both old and young that Crawford W. Long had come into the world to better his fellow creatures. His office became the place of sojourn of those who desired a pleasant evening, especially of the young men of the village. About that time the inhalation of laughing gas, as an exhilarant, was much discussed. Lecturers on chemistry would sometimes entertain by giving a "nitrous oxide party," during which the participants would become drunk from its inspiration. It was in the winter of 1841 that some young friends importuned Dr. Long to permit them to indulge this pastime in his office. The physician had no means of preparing nitrous oxide gas, but suggested that sulphuric ether would produce similar exhilaration. The ether was produced; the young men inhaled and became hilarious. During the period of mirth some of them received bruises. The young medical practitioner noted that these bruises were not accompan-

ied with pain. In consequence he divined that ether must have the power of rendering one insensible to pain, and from this simple observation came the great discovery of anaesthesia.

Just here it may not be improper to remind ourselves that many of the brightest achievements of science are the results of slight observations, as the incident of Sir Isaac Newton and the falling apple proves. We are taught that the art of printing, probably the parent of more good than all others, owes its origin to rude impressions taken from letters carved on the bark of a beech tree—so trivial a matter that thousands would have passed it over with neglect. We are taught that the stupendous results of the steam engine may be traced to the chance observation of steam issuing from a bottle just emptied and placed casually near to a fire. We are also taught that electricity was discovered by some one noticing that a piece of rubbed glass attracted bits of paper. Every one now appreciates the importance of these wonders, yet they were the results of slight observations.

"Nothing is too little for the attention of man," says an old maxim upon the walls of the workshop of Peter the Great. The thoughtful subject of this paper found nothing in his profession too small for careful attention. He promptly determined to prove the value of his discovery, and during the month of March, 1842, ether was administered to Mr. James Venable until he was completely anaesthetized, then a small cystic tumor was taken from the back of his neck. To the amazement of the patient he experienced no pain, and surely this was complete anaesthesia. From five to eight other cases, testing the anaesthetic power of ether, were satisfactorily dealt with by Dr. Long during the years 1842 and 1843—quite a goodly number when it is remembered that surgical operations were not frequent in the country practice of a young physician more than half a century ago.

Dr. Crawford Long's surgical operations, under ether, were exhibited to medical men and also to persons of the community, as established by affidavits of persons operated upon, and of witnesses to the operations. Says Ange De Laperriere, M. D., of Jackson County: "I do certify that the facts of Dr. C. W. Long using sulphuric ether by inhalation to prevent pain in surgical operations, was frequently spoken of and became notorious in the County of Jackson, Georgia, in the year 1843." In May, 1843, Drs. R. D. Moore and Joseph B. Carlton, for many years leading physicians in the city of Athens, Georgia, discussed the trial of Dr. C. W. Long's discovery in a case of surgery before

them. They were unfortunately prevented from making the experiment by having none of the fluid at hand. Mrs. Emma Carlton, widow of Dr. Joseph B. Carlton, who died recently in Athens after living here for many years, signed the following: "I do certify that Dr. Crawford W. Long, of Jefferson, Jackson County, advised my husband, Dr. Joseph B. Carlton, a resident of Athens, Georgia, to try sulphuric ether as an anaesthetic in his practice. In November or December, 1844, in Jefferson, Georgia, while on a visit to that place, in the office of Dr. Long, my husband extracted a tooth from a boy who was under the influence, by inhalation, of sulphuric ether, without pain—the boy not knowing when it was done. I further certify that the fact of Dr. Long using sulphuric ether, by inhalation, to prevent pain, was frequently spoken of in the County of Jackson at this time, and was quite notorious."

It is to be regretted that Dr. Long did not *at once* make known to the world his great discovery of anaesthesia. Considered from a present point of view, his delay seems extraordinary. But it must not be forgotten that since that period the world has moved with exceeding rapidity. Sixty-five years ago, for a young medical practitioner in an obscure village, far from contact with centers of thought, removed from railroads, enjoying but modest postal facilities, with no great hospital organizations or medical associations to confirm his professional research, for a modest, diffident, young physician to claim so startling a discovery as anaesthesia has proven to be, without first securing most exhaustive proof of its worth, would have brought upon him the adverse criticism of his elders, and possibly the laughter of his colleagues.

Dr. Crawford Long as a young man, in his maturity, and when "nearing life's last white milestone," was ever a modest, unassuming gentleman. He sought no vain publicity. He fostered no extravagant aspirations. He was only a wise, patient, careful seeker after truth. He worked and waited, resolving to make the most comprehensive report of his discovery, after testing all kinds of cases. His great work was slowly stealing forth and beginning to perform its beneficent and beautiful office, but he, the author, was standing quietly back in the shadow. He was hoping much, but at the same time was ruling himself, thereby meeting the application of John Milton's words when he said: "He who ruleth himself is more than a king."

Had Dr. Crawford Long promptly made known the results of his experiment it would have assured the distinguished honors to which he was entitled, and would have prevented long-continued controversy as to who was really the discoverer of anaesthesia. A careful examination of the question clearly shows that two and a half years elapsed after the discovery by Crawford W. Long, before Dr. Wells, of Hartford, knew the anaesthetic power of nitrous oxide; that four and a half years passed after Dr. Long's initial experiment before Dr. Morton claimed to have the same knowledge. Morton is declared to have received the suggestion from Jackson; the latter claims to have made the discovery about the time Dr. Long made it, but left it to Morton to practically prove. Says Hugh H. Young, of Johns Hopkins Hospital, in his interesting pamphlet entitled, "Long, the Discoverer of Anaesthesia," "The immediate and universal use of anaesthesia in surgery is due to the great Boston surgeons, Warren, Hayward and Bigelow."

In 1849, Morton petitioned Congress for a reward as the discoverer, but he was opposed by the friends of Wells and Jackson. The friends of Morton and Wells presented volumes of testimony to the Senate of the United States in behalf of their candidates, but Jackson afterwards acknowledged the justice of Dr. Long's cause. For five years Crawford W. Long refused to take any part in the controversy. Never, indeed, did he ask pecuniary reward, but he naturally desired to be recognized as the discoverer of anaesthesia, and to that effect wrote an article for the Boston Medical Journal.

Confronted by so formidable an opponent as Long, the friends of Morton and Wells finally seemed to lose hope, the bill before Congress was allowed to die, and it was never resurrected. In 1877, Dr. J. Morton Sims investigated the claims of Dr. Long to the discovery of anaesthesia, and was convinced of their merit. He demanded their recognition by the medical profession, Dr. Long especially desiring the endorsement of the American Medical Association. It was but a short time afterwards that Dr. Long died, on the 16th day of June, 1878, in the city of Athens, Georgia, for many years the place of his residence.

The "Eclectic Medical Association" soon passed a decree in favor of Long, as did a number of minor societies; and Dr. Henri Stuart, founder of the Woman's Hospital in New York, presented a portrait of the discoverer of anaesthesia to the University of Georgia. A report has been circulated that a statute to the honor

of Dr. Long has been placed in the City of Paris, France, but I am not informed as to the accuracy of such report.

Georgia has all along recognized Dr. Crawford W. Long as the discoverer of anaesthesia, and when Governor Alexander H. Stephens was requested to name two great Georgians whose portraits might hang in the National Gallery, he designated Oglethorpe and Long. Thus Georgia has recognized her distinguished son, but Georgia has been slow, very slow, in paying *all* of the tribute due her renowned dead, for the memory of this son has not yet been perpetuated in marble or bronze. The village of his birth, the other village which was the scene of his discovery, the town of his long residence and now custodian of his remains, the State Medical Association, the State University, the State herself, have yet failed to erect a public memorial to Crawford W. Long. The neglect has been unfortunate, and it should be quickly remedied.

To preserve the memory of those who have conferred great benefits, is both a privilege and a duty. To honor the illustrious dead is to stimulate the living to higher ideals and loftier ambitions. It is a usage sanctioned by the wisdom of many ages of civilization. A Southern orator has said: "The city of ancient Athens was full of the memorials of actual history. Every street and square from the Piraeus to the Acropolis were adorned with statues of great men of the commonwealth, and twenty-one centuries have not extinguished this sentiment of veneration for the illustrious dead. Memorials of such men are to be found in every civilized land. On the banks of the Danube there stands a noble marble structure, called the Hall of Heroes, filled with effigies of the great sons of Germany. By the soft blue waters of Lake Lucerne stands the Chapel of William Tell. In the black aisle of the old cathedral at Innspruck, the peasant kneels before the statue of Andreas Hofer. In her senate hall England bids her sculptors still to place the images of her noblest sons. Two hundred years after the death of Shakespeare a monument is erected to honor him, though his own works had already immortalized the name. Even now plans are being made for erecting a building in Washington City to memorialize Thomas Jefferson. The memory of Dr. Benjamin Rush is perpetuated in stone; and everywhere we may find similar tributes to the great men of various callings. In the City of Washington rises a monument to the Father of his Country—this great American republic of ours.

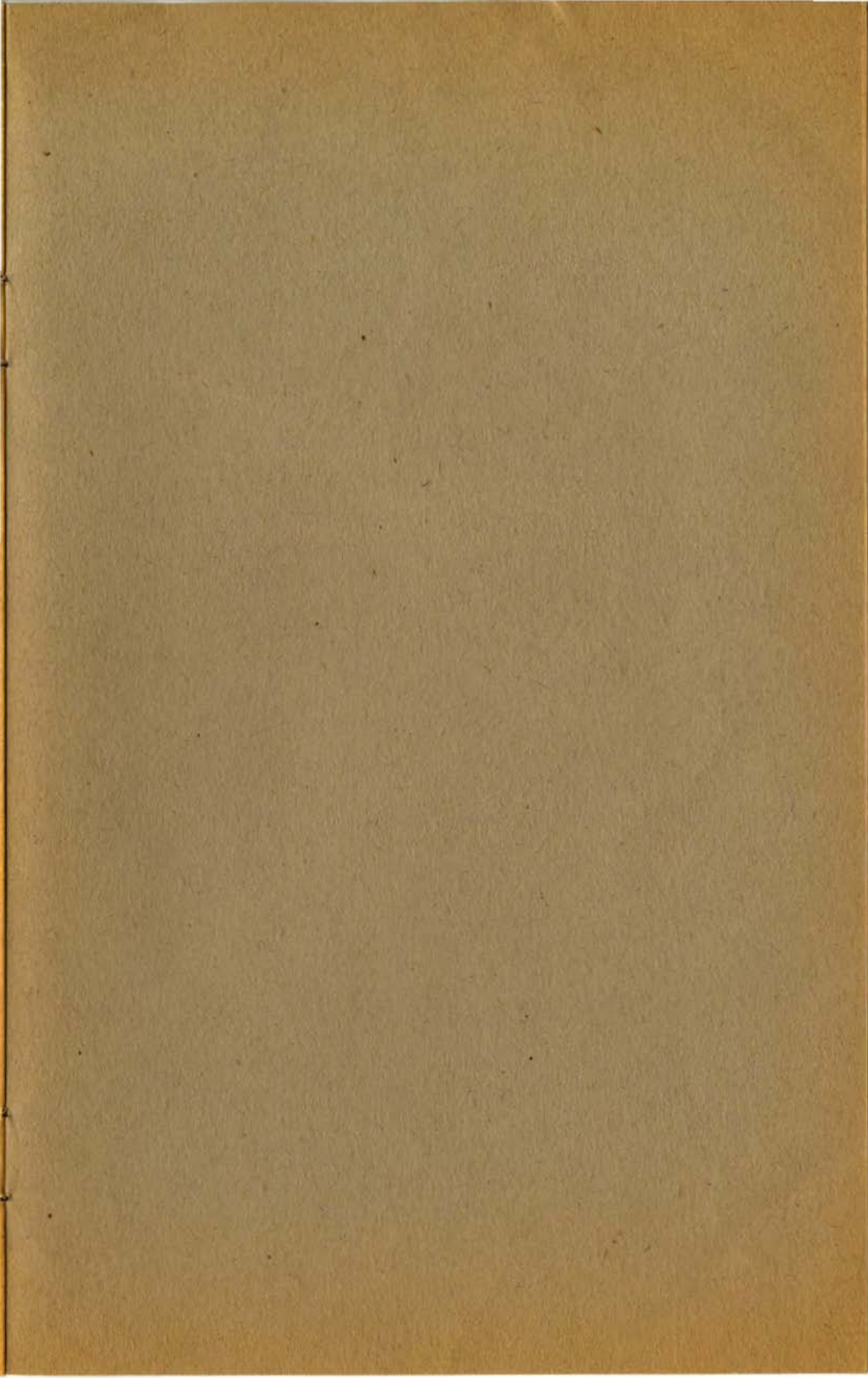
Gentlemen of our Georgia Medical Association, let us not defraud *our* illustrious dead of their rightful memorials. Let us wait no longer to proclaim by noble, beautiful and enduring art, this one of our number who gave an unsurpassed gift to his profession and to the world.

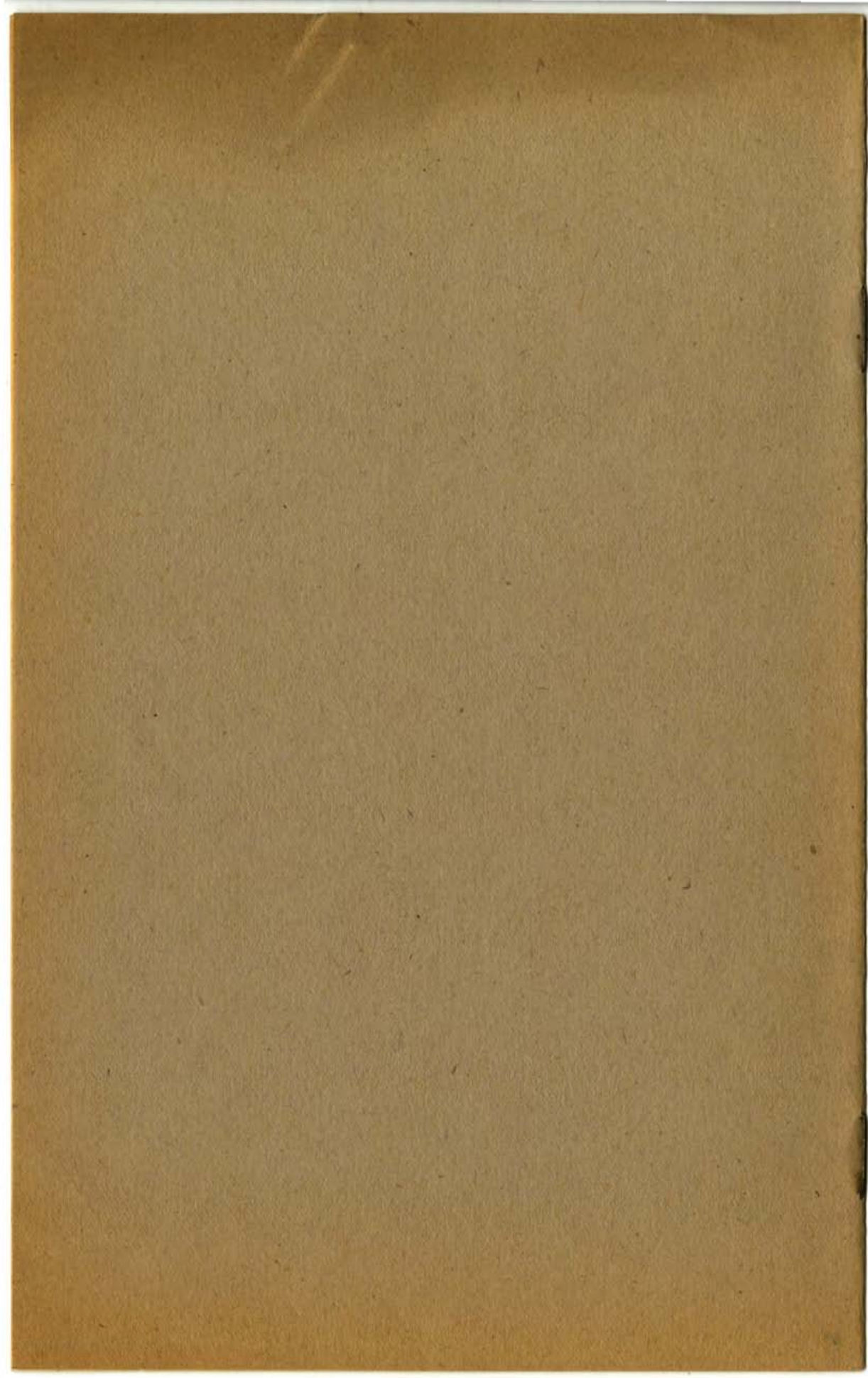
We are to be congratulated that some have not been so un-mindful as we, concerning this obligation, for a gentle reminder of our duty has quite recently come to us from that distinguished body, the State Federation of Women's Clubs—an organization that today a most potent factor for good in things educational, industrial and beautiful.

The Athens Chapter of the Federation of Women's Clubs has gladly undertaken the task of collecting an amount sufficient to erect a monument in honor of Dr. Long. This monument is to be at Athens, where repose the remains of the great discoverer, and will be erected in the name of the Medical Fraternity of Georgia. It is the earnest desire of those interested in this admirable undertaking to have a monument ready for unveiling during the gathering of our Medical Association at Athens in 1909.

Let us not prove forgetful of our interest in this memorial. In conformity with the usages sanctioned by ages, in conformity with the custom of our own time and our own country, in conformity with loving remembrance for our distinguished dead, let us unite our energies with those who are cheerfully and happily preparing to perpetuate in marble or bronze the memory of Crawford W. Long, the great discoverer of anaesthesia. Then may we exclaim with the poet:

"Patriots have toiled and in their country's cause
Died nobly. And their deeds, as they deserve
Receive proud recompense. We give in charge
Their name to the sweet lyre. The historic muse,
Proud of the treasure, marches with it down
To latest times; and sculpture in her turn
Gives bond in stone and ever-during brass
To guard them and immortalize her trust."



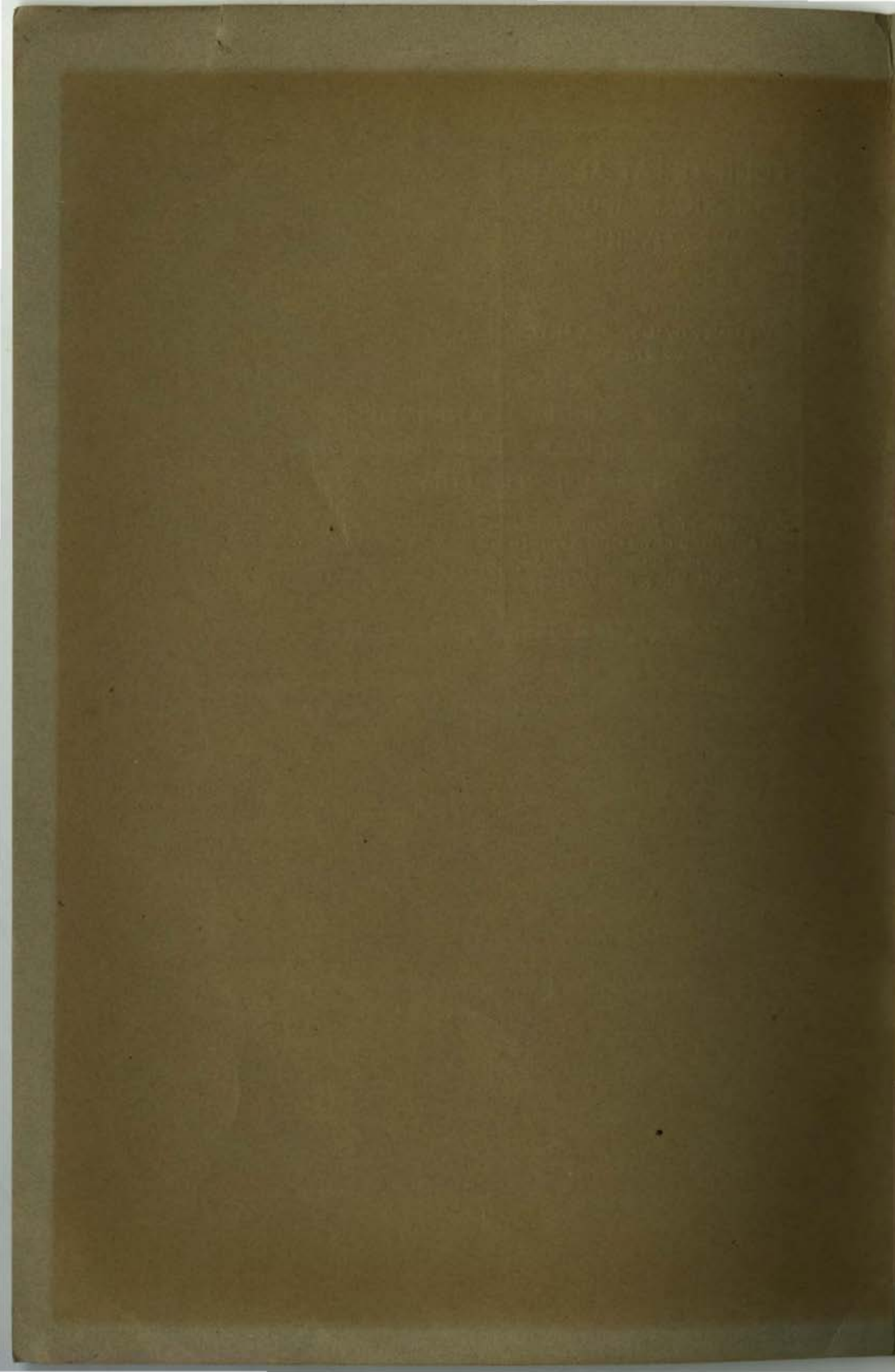


Lucy Fanne

FOUR GREAT ANGLO-
AMERICAN MEDICAL
DISCOVERIES

BY
WILLIAM ROYAL STOKES, M. D.
Professor of Pathology

Reprinted from THE JOURNAL OF THE ALUMNI
ASSOCIATION OF THE COLLEGE OF PHY-
SICIANS AND SURGEONS, BALTIMORE,
VOL. VII, No. 4, January, 1905



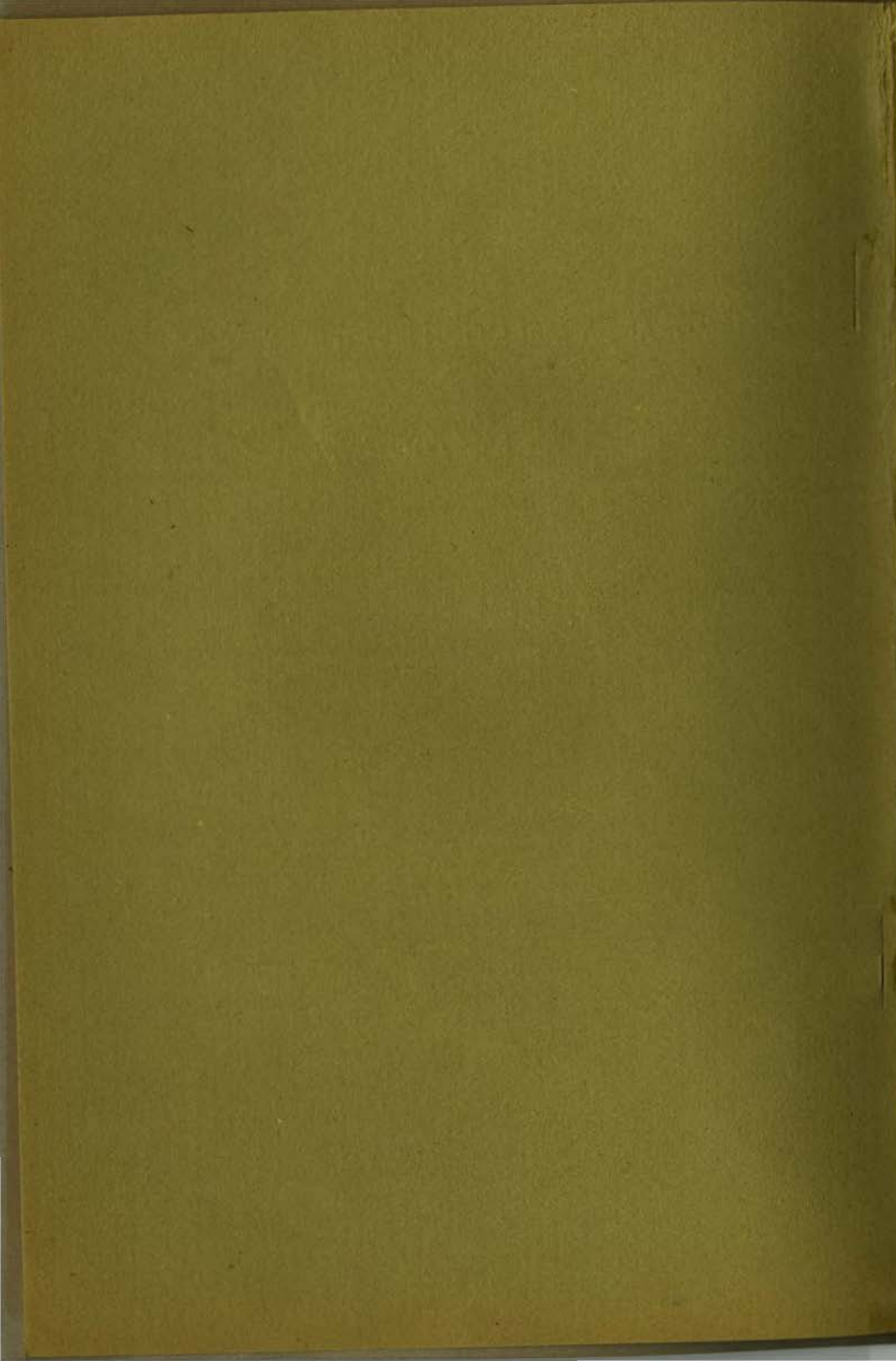
MEMORANDA RELATING TO THE DISCOVERY OF SURGICAL ANESTHESIA, AND
DR. WILLIAM T. G. MORTON'S
RELATION TO THIS EVENT.

BY

WILLIAM JAMES MORTON, M.D.

Professor of Diseases of the Mind and Nervous System and Electro-Therapeutics
in the New York Post-Graduate Medical School and Hospital.

Reprinted from the POST-GRADUATE for April, 1905.



MAN'S REDEMPTION OF MAN

(Extract from)

*A Lay Sermon, McEwan Hall, Edinburgh
Sunday, July 2nd, 1910*

By Sir WILLIAM OSLER, Bt., M.D., F.R.S.
Regius Professor of Medicine, Oxford
Honorary Professor of Medicine, Johns Hopkins University

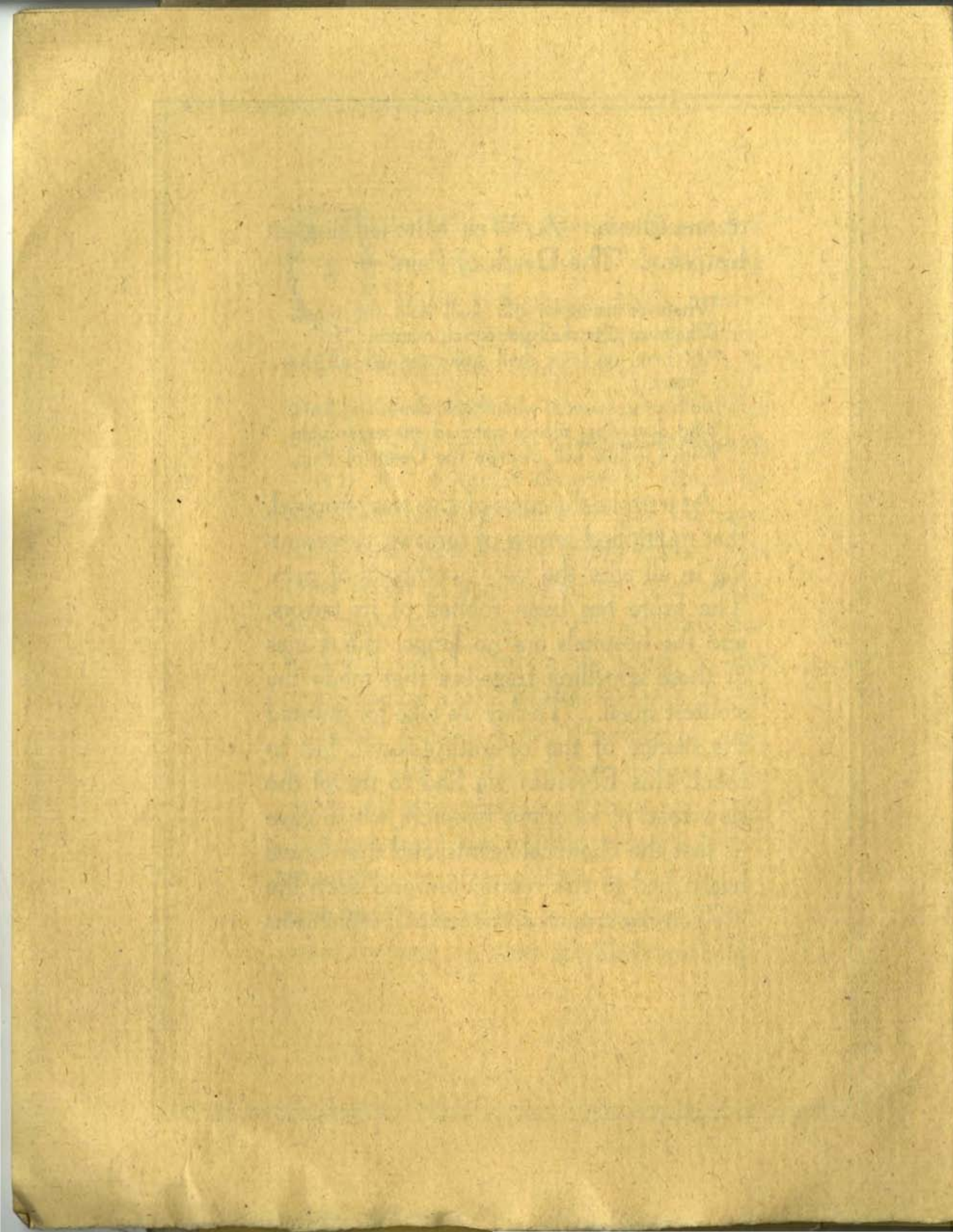


WITHIN the life-time of some of us a strange and wonderful thing happened on the earth—something of which no prophet foretold, of which no seer dreamt, nor is it among the beatitudes of Christ Himself; only St. John seems to have had an inkling of it in that splendid chapter in which he describes the new heaven and the new earth, when the former things should pass away, when all tears should be wiped away, and there should be no more crying nor sorrow. On October 16, 1846, in the amphitheatre of the Massachusetts General Hospital, Boston, a new Prometheus gave a gift as rich as that of fire, the greatest single gift ever made to suffering humanity. The prophecy was fulfilled—*neither shall there be any more pain*; a mystery of the ages had been solved by a daring experiment by man on man in the introduction

of anaesthesia. As Weir Mitchell sings in his poem, "The Death of Pain"—

Whatever triumphs still shall hold the mind,
Whatever gifts shall yet enrich mankind,
Ah! here, no hour shall strike through all the
years,
No hour so sweet as when hope, doubt and fears,
'Mid deepening silence watched one eager brain
With Godlike will decree the Death of Pain.

At a stroke the curse of Eve was removed, that multiplied sorrow of sorrows, representing in all ages the very apotheosis of pain. The knife has been robbed of its terrors, and the hospitals are no longer the scenes of those appalling tragedies that made the stoutest quail. To-day we take for granted the silence of the operating-room, but to reach this Elysium we had to travel the slow road of laborious research, which gave us first the chemical agents; and then brave hearts had to risk reputation, and even life itself in experiments, the issue of which was for long doubtful.



Boston, April 28, 1910

Dear Sir:—

I beg to add my testimony to that of others to the claim of the late Dr. William T. G. Morton, to be worthy of a position in the Hall of Fame. I think it is universally admitted by the Staff of the Massachusetts General Hospital, where surgical anaesthesia was first introduced on October 16, 1846, that Dr. Morton was the one, above all others, entitled to the merit of being regarded as the discoverer of anaesthesia. The fact has recently been so stated in an inscription in the operating theatre of the hospital by the trustees, and that room is now set apart as a sort of shrine, to be visited by all interested in the future of American Surgery.

The late Dr. Jacob Bigelow had inscribed upon Dr. Morton's monument in Mt. Auburn on the four sides the following four inscriptions:

Dr. William T. G. Morton

Before whom, in all time, surgery was agony

By whom, pain in surgery was averted and annulled

Since whom science has control of pain

Whatever may be said of any other claimants, I think this could have been said only of Morton himself. As the grandson of the surgeon who performed the operation on the date above referred to, I

CHAPTER I.

OF THE

REIGN OF CHARLES THE FIRST. 1625-1649.

THE first year of the reign of Charles the first was distinguished by the death of James the first, who died on the 27th of March, 1625. He was succeeded by his son Charles, who was then only a boy of sixteen years of age. The reign of Charles the first was marked by a series of events which led to the civil war and the execution of the king. The king's policy was to strengthen the monarchy and to suppress the power of the parliament. He was opposed by the parliament, which was led by John Pym and other members. The king's policy was to increase the power of the monarchy and to suppress the power of the parliament. He was opposed by the parliament, which was led by John Pym and other members. The king's policy was to increase the power of the monarchy and to suppress the power of the parliament. He was opposed by the parliament, which was led by John Pym and other members.

THE second year of the reign of Charles the first was marked by the death of John Pym, who was killed in the battle of Edgehill. The king's policy was to increase the power of the monarchy and to suppress the power of the parliament. He was opposed by the parliament, which was led by John Pym and other members. The king's policy was to increase the power of the monarchy and to suppress the power of the parliament. He was opposed by the parliament, which was led by John Pym and other members. The king's policy was to increase the power of the monarchy and to suppress the power of the parliament. He was opposed by the parliament, which was led by John Pym and other members.

wish to testify to the fact that it was the view of the surgeons of that time, that to Dr. Morton alone credit should be given.

The introduction of anaesthesia was one of the great events of the whole history of surgery, equal only to the discovery of Lister, and was as far-reaching in the changes which it brought about.

If any place is to be given to a member of the medical profession in the Hall of Fame, I know of no one who deserves it more than Dr. Morton.

Respectfully yours,

Howard Crosby

Emeritus Professor of Surgery, Harvard University.

Chancellor of New York University.

MEMORANDA RELATING TO THE "DISCOVERY OF ANÆSTHESIA."

AMERICA has accorded but few public honors to medical students, to physicians, or to dentists. But when, in the due fulness of time and after mature consideration, a public honor, such as has recently fallen to the lot of the late Dr. W. T. G. Morton, "the discoverer of the safe use of ether," at last occurs, it would seem worthy of being noted in connection with the event which led up to it, by the medical press. We refer to the enrolment of Dr. Morton's name upon the base of the dome in the new chamber of the House of Representatives in the State House in Boston, among the selected fifty three of Massachusetts' most famous citizens. It will be noted in the quotation from the *Critic*, given below, that "the names have been selected in such a way that each shall either mark an epoch or designate a man who has turned the course of events."

The following accounts, from the *Boston Transcript* of November 10, 1894, and from the *Critic*, of New York, of November 17, 1894, give the main features of this event.

"Most Distinguished Citizens"—The Fifty-three whose Names are Inscribed in the New House of Representatives.—The names of the fifty-three celebrated sons of Massachusetts have been selected by the State House Commissioners and are inscribed around the base of the dome of the new chamber of the House of Representatives. They are Morse, Morton, Bell, Bancroft, Prescott, Motley, Parkman, Emerson, Hawthorne, Holmes, Bryant, Longfellow, Lowell, Whittier, Copley, Hunt, Edwards, Channing, Brooks, Carver, Bradford, Endicott, Winthrop, Vane, Pickering, Knox, Lincoln, John Adams, Dane, Quincy, J. Q. Adams, Webster, Sumner, Wilson, Andrew, Choate, Parsons, Shaw, Story, Everett, Phillips, Garrison, Mann, Howe, Allen, Devens, Bartlett, Putnam, Franklin, Bowditch, Pierce, Agassiz, Bulfinch.

"A few of the names may not be quite familiar. Bell is, of course, the inventor of the telephone. He is the only man still living who has been included. Morton was the discoverer of anæsthesia. Knox and Lincoln were the Revolutionary major generals. Dane drafted the ordinance of 1787, and originated the clause in the constitution forbidding the impairment of the obligation of contracts. Quincy was the president of Harvard. Allen was an eminent judge. Howe was the tutor of Laura Bridgman and the revolutionizer of the methods of teaching the blind. Putnam settled the northwest territory."

Boston Letter.²—"The fifty three 'Immortals' of Massachusetts have been selected. In other words, upon the base of the dome in the chamber of the House of Representatives in the new State House will be inscribed the names of fifty-three sons of Massachusetts selected as representing the highest fame of the commonwealth. Some names, according to Senator Hoar, deserving to go in this list will have to be omitted for lack of room, but, as Lieutenant Governor Wolcott says, the list has been approved by the Governor and his council, and the names have been selected in such a way that each shall either mark an epoch or designate a man who has turned the course of events. Probably the selection, taken altogether, will be regarded as just. In that list stand Prescott, Motley and Parkman. There, too, are Emerson, Hawthorne, Holmes, Bryant, Longfellow, Lowell and Whittier, while Carver, Bradford, Endicott, Winthrop, Vane, Pickering, Knox, Lincoln, John Adams, John Quincy Adams and Quincy are among the early patriots thus honored. Howe, the husband of Julia Ward Howe, the great worker for the blind, and tutor of Laura Bridgman; Morton, who discovered the safe use of ether, Copley, Hunt, Edwards, Channing, Brooks and Morse are also there, together with the great statesmen, Webster, Sumner, Wilson, Andrew, Choate, Everett, Phillips and Garrison. Among the later names are those

¹ From the *Boston Transcript*, Boston, Mass., Saturday, November 10, 1894.

² From *The Critic*, New York City, November 17, 1894.

of Devens, Bowditch, Pierce and Agassiz, while Bell, the inventor of the telephone, is the only man still living who is included in the list. These names will indicate the general drift of the selection."

And in this connection it is believed that the two accompanying letters from Dr. Oliver Wendell Holmes, one of them of recent date, and both published in the New York MEDICAL RECORD of December 22, 1894, in the following communication will be of interest.

"ORIGIN OF THE TERM ANÆSTHETIC."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I notice, in your issue of December 8th, an account of a conversation upon this point, between Mr. Edgar Willett and Dr. Oliver Wendell Holmes, when the latter was in England, in 1886.

It is quite possible that Dr. Holmes had forgotten that he had, in 1846, written to Dr. Morton a letter elaborately analyzing the varied appropriateness of several terms, and I take pleasure in sending to you from among my father's correspondence a copy of Dr. Holmes's original letter, exactly corroborative of the conversation above referred to. Dr. Holmes's letter reads as follows:

"BOSTON, November 21, 1846.

"MY DEAR SIR: Everybody wants to have a hand in a great discovery. All I will do is to give you a hint or two, as to names, or the name, to be applied to the state produced and the agent.

"The state should, I think, be called 'anæsthesia.' This signifies insensibility, more particularly (as used by Linnæus and Cullen) to objects of touch. (See 'Good-Nosology,' p. 259.) The adjective will be 'anæsthetic.'

"Thus we might say the state of anæsthesia, or the anæsthetic state. The means employed would be properly called the anti-æsthetic agent. Perhaps it might be allowable to say anæsthetic agent, but this admits of question.

"The words antineuric, aneuric, neuro leptic, neurolepsia, neuro etasis, etc., seem too anatomical; whereas the change is a physiological one. I throw them out for consideration.

"I would have a name pretty soon, and consult some accomplished scholar, such as President Everett or Dr. Bigelow, Senior, before fixing upon the terms, which *will be repeated by the tongues of every civilized race of mankind.*

"You could mention these words which I suggest for their consideration; but there may be others more appropriate and agreeable. Yours respectfully,

"O. W. HOLMES.

"DR. MORTON."

When the child now known as anæsthesia had been born into the world by the public demonstration of a painless capital operation at the Massachusetts General Hospital, October 16, 1846, it had no name, and none could be immediately found for it, since the language of the day had not as yet been called upon to express the act or the state produced by the act. It was necessary to christen it. Accordingly, a meeting was held at the house of Dr. A. A. Gould, at which were present Dr. Henry J. Bigelow, Dr. O. W. Holmes, and Dr. Morton, and Dr. Gould read aloud a list of names which he had prepared. On hearing the word "Letheon," Dr. Morton exclaimed, "That is the name the discovery shall be christened." Dr. Gould and the others also favored this name, derived from the mythological river Lethe. But after a subsequent consultation with Dr. Holmes and a consideration of the terms suggested by him in the above letter, Dr. Morton adopted the terms anæsthesia, anæsthetics, and etherization, the terms now in common use.

While upon this subject it may interest your readers to read another letter of Dr. Holmes's, written forty-seven years later on—in fact, only a few months before his death—wherein no failure of his vigor or felicity of expression is wanting. This letter, now in the possession of the writer, has been published only in part, in the August number of the *Century Magazine* of the present

year, in an article entitled "Dr. Morton's Discovery of Anæsthesia." It reads as follows:

"BOSTON, April 2, 1893.

"MY DEAR SIR: Few persons have or had better reason than myself to assert the claim of Dr. Morton to the introduction of artificial anæsthesia into surgical practice. The discovery was formally introduced to the scientific world in a paper read before the American Academy of Arts and Sciences by Dr. Henry J. Bigelow, one of the first, if not the first, of American surgeons.

"On the evening before the reading of the paper containing the announcement of the discovery, Dr. Bigelow called at my office to recite this paper to me. He prefaced it with a few words which could never be forgotten.

"He told me that a great discovery had been made, and its genuineness demonstrated at the Massachusetts General Hospital, of which he was one of the surgeons. This was the production of insensibility to pain during surgical operations, by the inhalation of a certain vapor (the same afterward shown to be that of sulphuric ether). In a very short time, he said, this discovery will be all over Europe. He had taken a great interest in the alleged discovery, had been present at the first capital operation performed under its influence, and was from the first the adviser and supporter of Dr. W. T. G. Morton, who had induced the surgeons of the hospital to make trial of the means by which he proposed to work this new miracle. The discovery went all over the world like a conflagration.

"The only question was whether Morton got advice from Dr. Charles T. Jackson, the chemist, which entitled that gentleman to a share, greater or less, in the merit of the discovery.

"Later it was questioned whether he did not owe his first hint to Dr. Horace Wells, of Hartford, which need not be disputed. Both these gentlemen deserve 'honorable mention' in connection with the discovery, but I have never a moment hesitated in awarding the essential credit of the great achievement to Dr. Morton.

This priceless gift to humanity went forth from the operating theatre of the Massachusetts General Hospital and the man to whom the world owes it is Dr. William Thomas Green Morton.

"Experiments have been made with other substances besides sulphuric ether, for the production of anæsthesia. Among them, by far the most important, is chloroform, the use of which was introduced by Sir James Y. Simpson. For this and for the employment of anæsthetics in midwifery he should have all due credit, but his attempt to appropriate the glory of making the great and immortal discovery, as revealed in his contribution to the *Eighth* edition of the 'Encyclopædia Britannica,' is unworthy of a man of his highly respectable position. In the *Ninth* edition of the same work his article 'Chloroform' is omitted and a fair enough account of the discovery is given under the title 'Anæsthesia.'

"Yours very truly, O. W. HOLMES."

"P. S.—You had better apply to Dr. Richard M. Hodges for his recent paper on the subject if you have not seen it already."

I am, yours very truly,

WILLIAM J. MORTON, M D

NEW YORK CITY, December 15, 1894.

William Thomas Green Morton, M.D., medical student, dentist and physician, and the recent recipient of Massachusetts' honor, was born in Charlton, Mass., August 9, 1819, and died, aged forty eight, in New York City, July 15, 1868.¹

In 1840, at the age of twenty-one, he was a student in the "Baltimore College of Dental Surgery," a chartered organization connected with the Washington University of Medicine of Baltimore.

Subsequently he engaged in the practice of dentistry

¹ See the American Cyclopædia: New York, D. Appleton & Co., 1875. Article, "Morton, W. T. G.," p. 855. See Encyclopædia Britannica, Ninth Edition, Article, "Anæsthesia." See the Century Illustrated Monthly Magazine, New York City, August, 1894.

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in Boston, in the meantime assiduously pursuing his studies to receive a medical degree.

March 20, 1844, he entered his name as a student of medicine with Dr. Charles T. Jackson of Boston.

In November, 1844, he entered the Harvard Medical School in Boston in regular course as a matriculate and attended all the lectures.

In 1852 he received the honorary degree of Doctor of Medicine from his original *alma mater*, the Washington University of Medicine (afterwards merged into the College of Physicians and Surgeons), of Baltimore, Md.

On September 30, 1846, at his office in Boston, he administered sulphuric ether to Eben Frost and extracted a tooth without pain to the patient.

Securing permission from Dr. John C. Warren, Senior Surgeon of the Massachusetts General Hospital, on October 16, 1846, he administered ether to a patient at the hospital, and Dr. Warren performed a severe surgical operation, the patient remaining unconscious during the operation.

He was now twenty-seven years of age and still a medical student in the Harvard Medical School. The discovery now announced, brought with it overwhelming labors, and he was compelled to discontinue his studies from that moment onward.

From this crucial demonstration in October, 1846, dates the immediate and universal adoption of the practice of anæsthesia throughout the civilized world. The event marked the advent of a new epoch in the world's history, namely the epoch of practical painless surgery.

Over Dr. Morton's grave in Mount Auburn Cemetery, near Boston, a monument has been "erected by citizens of Boston" including names the most respected and most honored among them, bearing the following inscription, written by the late Dr. Jacob Bigelow, of Boston:

"WILLIAM T. G. MORTON,
INVENTOR AND REVEALER OF ANÆSTHETIC INHALATION.
BY WHOM PAIN IN SURGERY WAS AVERTED AND
ANNULLED.
BEFORE WHOM, IN ALL TIME, SURGERY WAS AGONY.
SINCE WHOM SCIENCE HAS CONTROL OF PAIN."

A monument in the Public Gardens in Boston is erected "To commemorate the *discovery* that the inhalation of ether causes insensibility to pain. First proved to the world at the Massachusetts General Hospital, in Boston, October, 1846," the date of Dr. Morton's successful demonstration at the hospital.

No other date is upon this monument except the date of its erection, 1867, and no other reference, except biblical quotations, to anæsthesia. It can therefore refer to no one but to Dr. Morton.

Dr. Morton received a divided Montyon prize from the French Academy of Sciences, the "Cross of the Order of Wasa, Sweden and Norway," the "Cross of the Order of St. Vladimir, Russia," and a silver box containing one thousand dollars from the trustees of the Massachusetts General Hospital "in honor of the ether discovery of September 30, 1846." The trustees in their report, subsequently reaffirmed, unanimously according the honor and credit of the discovery to him.

He made several appeals for remuneration, for the use of his discovery in the army and navy, to the Congress of the United States, and although committees to whom the subject was referred made majority reports that he was entitled "to the merit of the discovery and to substantial reward," yet no reward was ever voted to him. At two sessions of Congress, bills in his favor were passed, and on one occasion the President of the United States held his pen in his hand to sign a bill and paused to consult Jefferson Davis, Secretary of War, with the result that the bill was never signed.

Announcing his discovery at the age of twenty seven and dying at the comparatively early age of forty-eight, his twenty one years of adult and active life were entirely consumed with the turmoil and pain of the controversy forced upon him by claims not one of which had ever appeared in print until *after* his initial announcement in 1846.

He died poor and

"He became poor in a cause which has made the world his debtor."

BIOGRAPHICAL SKETCH
OF
DR. WILLIAM T. G. MORTON.

[Reprint from PHYSICIANS AND SURGEONS OF AMERICA.]



WILLIAM THOMAS GREEN MORTON.

MORTON, William Thomas Green, discoverer of anæsthesia, was born in Charlton, Mass., August 9, 1819; died in New York city, July 15, 1868. He was the son of James and Rebecca (Needham) Morton; grandson of Thomas Morton, a Revolutionary soldier, born in 1759; great-grandson of Robert Morton, who immigrated from Scotland and settled in Mendon, near Charlton, Mass.; he acquired by purchase for three shiploads of goods, seven thousand acres of land in the eastern part of New Jersey, where he had been induced to move, and in a portion of that property is now situated the city of Elizabethtown. The original grant has never been sold or in any way cancelled, and with the original title deed remains in the possession of the Morton family.

William Thomas Green Morton passed his youth in alternate school and farm work, until, at the age of thirteen, he entered the academy at Oxford, becoming a member of the family of Dr. Pierce. He also attended the academies at Northfield and Leicester, Mass. Owing to his father's financial embarrassment, he was obliged to leave school at the age of seventeen, and secured a position in a large publishing house in Boston. In August, 1840, he entered the Baltimore College of Dental Surgery, then just established under the auspices of the American Society of Dental Surgeons, in connection with the Washington University of Medicine of Baltimore, Md. In 1842, and after graduating in dentistry, he entered upon the practice of his profession in Boston, Mass. March 20, 1844, he entered his name as a student of medicine with Dr. Charles T. Jackson of Boston; in November, 1844, he matriculated in the Medical School of Harvard University, attending all the lectures in regular course; and in 1852, received the honorary degree of M. D., from the Washington University of Medicine, afterward merged in the College of Physicians and Surgeons, Baltimore, Md.

Meanwhile Dr. Morton was endeavoring to discover some means of deadening pain in connection

with his dental operations, and on September 30, 1846, at his office in Boston, administered sulphuric ether to one Eben Frost and extracted a tooth without pain to the patient. Securing permission from Dr. John C. Warren, senior surgeon of the Massachusetts General Hospital, on October 16, 1846, he administered ether to a patient at that hospital, and Dr. Warren performed a severe surgical operation, the patient remaining unconscious during the time. Dr. Morton at that time was but twenty-seven years of age and still a student in the Medical School of Harvard University. The discovery being announced, he was compelled to discontinue his studies in order to devote his entire time to his work. After the public demonstration of a painless capital operation at the Massachusetts General Hospital, October 16, 1846, it was necessary that the process should receive a suitable name. A meeting was held at the house of Dr. A. A. Gould, at which were present Dr. Henry J. Bigelow, Dr. O. W. Holmes, and Dr. Morton, and Dr. Gould read aloud a list of names which he had prepared. On hearing the word "Letheon," Dr. Morton exclaimed, "That is the name the discovery shall be christened." Dr. Gould and the others also favored this name, derived from the mythological river Lethe. But after a subsequent consultation with Dr. Holmes and a consideration of the terms suggested by him in the following letter, Dr. Morton adopted the terms *anæsthesia*, *anæsthetics*, and *etherization*, the terms now in common use. Following are two letters from Dr. Holmes bearing upon this subject:

BOSTON, NOVEMBER 21, 1846.

My Dear Sir:—Everybody wants to have a hand in a great discovery. All I will do is to give you a hint or two, as to names, or the name, to be applied to the state produced and the agent.

The state should, I think, be called "*anæsthesia*." This signifies insensibility, more particularly (as used by Linnæus and Cullen) to objects of touch (See "*Good-Nosology*," p. 259.) The adjective will be "*anæsthetic*."

Thus we might say the state of anaesthesia, or the anaesthetic state. The means employed would be properly called the anti-aesthetic agent. Perhaps it might be allowable to say anaesthetic agent, but this admits of question.

The words antineuric, aneuric, neuro leptic, neuroleptia, neuro etasis, etc., seem too anatomical; whereas the change is a physiological one. I throw them out for consideration.

I would have a name pretty soon, and consult some accomplished scholar, such as President Everett or Dr. Bigelow, Senior, before fixing upon the terms, which *will be repeated by the tongues of every civilized race of mankind.*

You could mention these words which I suggest for their consideration; but there may be others more appropriate and agreeable.

Yours respectfully,

O. W. HOLMES.

DR. MORTON.

BOSTON, APRIL 2, 1893.

My Dear Sir:—Few persons have or had better reason than myself to assert the claim of Dr. Morton to the introduction of artificial anaesthesia into surgical practice. The discovery was formally introduced to the scientific world in a paper read before the American Academy of Arts and Sciences by Dr. Henry J. Bigelow, one of the first, if not the first, of American surgeons.

On the evening before the reading of the paper containing the announcement of the discovery, Dr. Bigelow called at my office to recite this paper to me. He prefaced it with a few words which could never be forgotten.

He told me that a great discovery had been made, and its genuineness demonstrated at the Massachusetts General Hospital, of which he was one of the surgeons. This was the production of insensibility to pain during surgical operations, by the inhalation of a certain vapor (the same afterward shown to be that of sulphuric ether). In a very short time, he said, this discovery will be all over Europe. He had taken a great interest in the alleged discovery, had been present at the first capital operation performed under its influence, and was from the first the advisor and supporter of Dr. W. T. G. Morton, who had induced the surgeons of the hospital to make trial of the means by which he proposed to work this new miracle. The discovery went all over the world like a conflagration.

The only question was whether Morton got advice

from Dr. Charles T. Jackson, the chemist, which entitled that gentleman to a share, greater or less, in the merit of the discovery.

Later it was questioned whether he did not owe his first hint to Dr. Horace Wells, of Hartford, which need not be disputed. Both these gentlemen deserve "honorable mention" in connection with the discovery, but I have never a moment hesitated in awarding the essential credit of the great achievement to Dr. Morton.

This priceless gift to humanity went forth from the operating theatre of the Massachusetts General Hospital and the man to whom the world owes it is Dr. William Thomas Green Morton.

Experiments have been made with other substances besides sulphuric ether, for the production of anæsthesia. Among them, by far the most important, is chloroform, the use of which was introduced by Sir James Y. Simpson. For this and for the employment of anæsthetics in midwifery he should have all due credit, but his attempt to appropriate the glory of making the great and immortal discovery, as revealed in his contribution to the *Eighth* edition of the *Encyclopædia Britannica*, is unworthy of a man of his highly respectable position. In the *Ninth* edition of the same work his article, "Chloroform," is omitted and a fair enough account of the discovery is given under the title "Anæsthesia."

Yours very truly,

O. W. HOLMES.

In November, 1846, Dr. Morton took out a patent for his discovery, in the name of "Lethæon." He offered free rights to all charitable institutions throughout the country, but the government appropriated the discovery without remuneration. In taking out this patent Dr. Morton was badly advised and regretted it. His misfortunes have amply atoned to a generous profession for this step. He applied to congress for relief in 1846 and again in 1849, endorsed by the action of the trustees of the Massachusetts General Hospital, who acknowledged him in 1848 to be the discoverer of the power and safety of ether in producing anæsthesia. In 1852, a bill, appropriating \$100,000 as a national testimonial for his discovery, was introduced in congress, with the condition that he surrender his patent to the United States govern-

ment, but it failed, and he was again unsuccessful in securing aid in 1853 and in 1854. Testimonials in his behalf were signed by prominent members of the profession in Boston in 1856, in New York in 1858, and in Philadelphia in 1860.

Dr. Morton received from the French Academy of Sciences a divided Montyon prize, 2,500 francs; the "Cross of the Order of Wasa, Sweden and Norway;" "The Cross of the Order of St. Vladimir, Russia;" and a silver box containing one thousand dollars from the trustees of the Massachusetts General Hospital "in honor of the ether discovery of September 30, 1846."

Dr. Morton spent the last years of his life in agricultural pursuits in Wellesley, Mass., where he also raised and imported fine cattle. He died financially poor. Over his grave in Mount Auburn cemetery, Boston, is a monument "erected by citizens of Boston," with the following inscription, written by the late Dr. Jacob Bigelow, of Boston: "William T. G. Morton, inventor and revealer of Anæsthetic Inhalation. By whom pain in surgery was averted and annulled. Before whom, in all time, surgery was agony. Since whom science has control of pain." A monument in the Public Garden in Boston is erected "To commemorate the *discovery* that the inhalation of ether causes insensibility to pain. First proved to the world at the Massachusetts General Hospital, in Boston, October, 1846," the date of Dr. Morton's successful demonstration at the hospital. Dr. Morton's name is enrolled upon the base of the dome in the new chamber of the house of representatives in the state house in Boston, among the selected fifty-three of Massachusetts' most famous citizens, the names having been selected either to mark an epoch or designate a man who has turned the course of events. Dr. Morton's name is also enrolled upon the medallions of the new public library of Boston, among the five hundred and fifty names chosen from the records of historical time in honor of their achievements.

In our Civil War Dr. Morton was with General Grant in the Battles of the Wilderness, and with General Burnside in the Battle of Fredericksburg, administering to the wounded. The following letter was written from the headquarters of the Army of the Potomac to a friend in Washington:

HEADQUARTERS, May 19, 1864.

My Dear —:—Soon after leaving Fredericksburg to come out here, we passed some four or five army wagons parked, each one with its four or six horses or mules, ready for service, yet near the supplies of forage. There were also large droves of cattle, brought from the western states for the use of the army, and killed as they are needed. The road, if road it may be called, was wretched indeed, the horses often sinking in mud-holes to the saddle-girths. Through this, ambulances and wagons were floundering along, carrying the wounded to Fredericksburg, while others, only slightly injured, plodded along on foot. Occasionally we passed an impromptu camp, where these slightly wounded men had stopped to rest, and several newly made graves showed where some poor fellows had made their last halt. The last five miles of our journey was over a new road cut through the woods, as the guerrillas had possession of the turnpike near Spottsylvania Court house. Indeed they have occasionally swooped in upon the road over which we went, carrying off horses and robbing the wounded.

On reaching the top of an eminence, I at last saw our line, in the shape of a horseshoe, somewhat straightened out, with troops all around, in readiness for instant attack, while beyond them, crouched in rifle-pits, were our pickets. Riding through regiments and batteries I reached a house which had been pointed out to me as Gen. Grant's headquarters, but found on my arrival that he had moved, that the building might be used as a hospital. Just then several wounded rebels were brought up on stretchers, and the surgeon in charge, who had known me after Burnside's attack upon Chancellorsville, invited me to administer anæsthetics, which I did. All of them had limbs amputated, and seemed very grateful afterwards for the kind treatment which they received, but they were bitterly secesh when the war was alluded to.

When these wounded rebels had been attended to, the surgeon sent an orderly with me to the headquarters of the medical director of the Army of the Poto-

mac, to whom I reported for duty, and then, as there was no need for my services, I went on until I reached the headquarters of the army. These occupied a group of about twenty tents, pitched along the border of a piece of woodland. In front of one of these tents, the fly of which was converted into an awning, sat the lieutenant general, with several officers and Mr. Dana, the assistant secretary of war.

While Gen. Grant was in Washington I had been introduced to him, and he now remembered me and kindly welcomed me. He conversed very frankly upon military matters, declaring that he intended to give the rebels all the fighting they wanted. It would not be proper, I suppose, to write you the general's remarks on the campaign, but I must tell you that in answer to my question—"How long is this deadly conflict to last?" he replied, in his cool, unassuming way, "Perhaps until the Fourth of July, and we shall have all the time supplies and reinforcements, which they can't get."

The general assigned me a tent and an orderly, and invited me to share his camp fare. On previous visits to camps, I had found that the generals lived far better than do the boarders at the Washington hotels, but our supper that night was simply coffee and bread and butter. The butter (the general said) was made on the field of battle.

Since I have been here there has been a succession of skirmishes and picket firings. The pickets lie crouched in rifle-pits, in which when it rains, there is often a foot or eighteen inches of water, and between them is what is called *the disputed ground*. When there is any heavy firing heard the ambulance corps, with its attendants, stationed nearest to the scene of action, starts for the wounded. The ambulances are halted near by, and the attendants go in with stretchers to bring out the wounded. The rebels do not generally fire upon those wearing the ambulance badges.

Upon the arrival of a train of ambulances at a field-hospital the wounds are hastily examined, and those who can bear the journey are sent at once to Fredericksburg. The nature of the operations to be performed upon the others is then decided upon, and noted on a bit of paper pinned to the pillow or roll of blanket under each patient's head. When this had been done I prepared the patients for the knife, producing perfect anæsthesia in an average time of three minutes, and the operators followed, performing their operations with dexterous skill, while the dressers in their turn bound up the stumps. It is surprising to see with what

dexterity and rapidity surgical operations are performed by scores in about the same time really taken up with one case in peaceful regions.

The medical department deserves great credit for the abundant supplies sent to the wounded, while the members of the Christian and sanitary commissions furnish many additional comforts. The number of wounded has been greatly exaggerated, and will not to-day amount to twenty thousand. Of this number a large proportion are so slightly wounded that in thirty days they will be ready for duty again.

The dead are buried where they fall, or near the hospitals in which they die. Their names are carefully written on wooden head boards, and entered into registers. It is, however, useless for friends to come here for their remains, as there is no way of transporting them to Washington except in government wagons, and the army needs all its transportation.

What houses remain standing are used as hospitals, the female occupants being permitted to retain one room. Often a stack of chimneys show where a dwelling has been burned. The colored people are leaving for the North, carrying their effects in small wagons or carts, often drawn by an ox working in shafts. It has rained nearly every day since I have been here, but the soldiers manage to keep themselves comfortable under shelter tents or bowers. Artillerymen sleep under their cannon, which are covered by tarpaulins.

Very truly yours,

W. T. G. MORTON.

Following is an extract from an Associated Press report from the Army of the Potomac:

Dr. Morton, of Boston, one of the first discoverers, if not indeed the first discoverer of the anæsthetic properties of ether, has been with the army the last week, working and observing in his capacity, with all his might. During this time he has, with his own hands, administered ether in over 2,000 cases. The medical director, when asked yesterday in what operations he required ether to be used, replied, "In every case." Day before yesterday some 300 rebel wounded fell into our hands. Of these twenty-one require capital operations. They were placed in a row, a slip of paper pinned to each man's coat collar telling the nature of the operation that had been decided upon. Dr. Morton passes along, and with a towel saturated with ether puts every man beyond consciousness and pain. The operating

surgeon follows and rapidly and skillfully amputates a leg or an arm, as the case may be, till the twenty-one have been subjected to the knife and saw without one twinge of pain. A second surgeon ties up the arteries; a third dresses the wounds. The men are taken to tents near by, and wake to find themselves cut in two without torture, while a winrow of lopped off members attest the work. The last man had been operated upon before the first awakened. Nothing could be more dramatic, and nothing could more perfectly demonstrate the value of anæsthetics. Besides, men fight better when they know that torture does not follow a wound, and numberless lives are saved that the shock of the knife would lose to their friends and the country.

A very complete account of Dr. Morton's life and achievements is given in a work entitled "Trials of a Public Benefactor," by Nathan P. Rice, M. D., Putney & Russell, New York, 1859.

Dr. Morton married, in May, 1844, Miss Elizabeth, daughter of Edward Whitman, Esq., of Farmington, Conn. Children: William James, born in Boston, July 3, 1845; Marion Alethe, born in Wellesley, Mass., February 2, 1847; Edward Whitman, born in Boston, November 29, 1848; Elizabeth Whitman, born in Wellesley, July 11, 1850; Bowditch, born in Wellesley, October 27, 1857, prepared for college at the Institute of Technology, Boston, was graduated from Harvard Medical school in 1881.

THE USE OF ETHER AS AN ANESTHETIC

AT THE BATTLE OF THE WILDERNESS
IN THE CIVIL WAR

W. T. G. MORTON, M.D.
Boston

*Reprinted from The Journal of the American Medical
Association, April 23, 1904.*

CHICAGO:

PRESS OF AMERICAN MEDICAL ASSOCIATION
ONE HUNDRED AND THREE DEARBORN AVENUE
1904.

THE USE OF ETHER AS
AN ANESTHETIC

BY
J. M. MORTON, M.D.

NEW YORK:

1846.

W. J. MORTON, M.D.

NEW YORK:

W. J. MORTON, M.D.

THE USE OF ETHER AS AN ANESTHETIC.
AT THE BATTLE OF THE WILDERNESS IN THE CIVIL WAR.*

W. T. G. MORTON, M.D.,
BOSTON.

On previous occasions it had been my privilege to visit battlefields, and there to administer the pain-destroying agent which it pleased God to make me the human agent to introduce for the benefit of suffering humanity. How little did I think, however, when originally experimenting with the properties of sulphuric ether on my own person, that I should ever successfully administer it to hundreds in one day, and thus prevent an amount of agony fearful to contemplate.

When the news of the commencement of the Battle of the Wilderness reached Washington, the surgeon general at once said that there would be work for his corps, and for such volunteer surgeons as could be ob-

* This is an abstract from an unpublished paper by the late W. T. G. Morton, M.D., of Boston, to whom the world is so deeply indebted for his early investigations of ether anesthesia. It was written soon after the Battle of the Wilderness in May, 1864, and has been furnished for publication by his son, Dr. Wm. J. Morton of New York City, by request of Dr. Henry O. Marcy of Boston. As an introduction we quote the following from the valedictory address delivered by Dr. John H. Brinton to the graduating class of Jefferson Medical College in 1892:

"Let me, from personal reminiscence, relate an anecdote in point: In the early summer of 1864, during the fierce contest in the Virginia Wilderness, I was present officially at the headquarters of Lieutenant-General Grant, on whose staff I had previously served. When in conversation with him, an aide approached and said to him that a stranger, a civilian physician, wished to see him for the purpose of obtaining an ambulance for his personal use in visiting the field hospitals. The answer of the General was prompt and decided: 'The ambulances are intended only for the sick and wounded, and under no circumstances can be taken for private use.' This response was carried as given to the waiting applicant, a travel-stained man in brownish clothes, whom at the

tained. Previously notified that a requisition would be made for my professional services, I was a "minute man," and left with the first party, taking a steamer for the landing-place called Belle Plain. . . .

I was awakened about daybreak by the clatter of hoofs and rattling of wheels. Peeping out from under my blanket I saw a four-horse ambulance, and heard the driver say to an orderly: "We have brought down General Getty, badly wounded, and must go back to Fredericksburg right away." "Now is my chance," thought I, and springing to my feet, I sought the medical director, who cheerfully gave me an order to go back in the ambulance, so that I left before my professional associates were awake.

Fredericksburg is nine miles distant from Belle Plain, with which it is connected by two main roads, and just now by a score or so of avenues, constructed for existing emergencies. The country, all the way between these points, is stripped entirely bare of fences, stock and products of whatever description, and, in the entire distance, I do not remember to have seen more than six houses. Immediately back of the landing at Belle Plain a range of hills stretches away to the east in abrupt, precipitous angles, with deep ravines ribbing their sides, through which roads have been constructed, along which the immense trains climb with difficult ascent, often overturning, sometimes breaking down, utterly. On the summit of this range of hills are thick growths of low timber, while the slopes are strewn with patches of

distance I thought I recognized. I went to him and found that he was Dr. W. T. G. Morton. I asked him to wait a minute, and returned to the General. On repeating his request I received the same answer. 'But, General,' I ventured to say, 'if you knew who that man is I think you would give him what he asks for.' 'No, I will not,' he replied. 'I will not divert an ambulance to-day for any one; they are all required elsewhere.' 'General,' I replied, 'I am sure you will give him the wagon; he has done so much for mankind, so much for the soldier; more than any soldier or civilian has ever done before, and you will say so when you know his name.' The General took his cigar from his mouth, looked curiously at the applicant, and asked: 'Who is he?' 'He is Dr. Morton, the discoverer of ether,' I answered. The General paused a moment, then said: 'You are right, Doctor, he has done more for the soldier than any one else, soldier or civilian, for he has taught you all to banish pain. Let him have the ambulance and anything else he wants.' Not only this, but I have learned from a printed letter of Dr. Morton, recently sent me by his family, that the hospitalities of the headquarters—ambulance, tent, mess and servant—were afterward tendered him during his stay, by order of the general commanding."

thicket—mostly of pines and scrub oak. The place is inexpressibly wild and desolate, and the only living beings visible were teamsters, wounded soldiers and mounted patrols.

In one dreary defile up came four men from behind us, and rode past at a brisk trot, two on each side. As they wore the Federal uniform, neither the driver nor myself mistrusted them, until, as if by magic, two each seized one of our leading horses, while the other two cut the reins and traces, and away they went. They were a quartette of guerillas, who thus helped themselves to a good pair of Uncle Sam's horses, leaving us to pursue our journey with a single pair instead of four-in-hand. The audacity of the rebel guerillas is astonishing, although they invariably seek unarmed or wounded subjects for plunder, and keep a wide distance from our patrols.

At last we rattled over a pontoon bridge, and entered the remains of the war-desolated city of Fredericksburg, once one of the most beautiful and flourishing places in Virginia. It is regularly laid out, the streets are shaded with trees, and although the houses are not noted for their architectural beauty, yet they are built with an idea of simplicity and of convenience which can not but charm the beholder. Nearly every house has a large garden, both in the front and rear, filled with all kinds of vines and flower trees. . . .

At first, there was confusion and lack of supplies, causing much suffering and discomfort. But Surgeon Dalton, the efficient medical director, soon had everyone made as comfortable as circumstances would permit, and the Sanitary and Christian Commissions did their share of the noble work. Scores of volunteer nurses, state relief agents and other good Samaritans did what they could to relieve the necessities and alleviate the sufferings of these brave wounded men.

The ambulances could not have brought one-tenth part of them, and the rest were brought in wagons, eleven or twelve miles over the remains of a planked road, worn by war-travel. In places the larger wagons had to be pried out of the deep holes with trimmed trees. The delays of the entire train from this cause were frequent and long. The depth of these holes, and the instinct and habit of the lead and middle team of mules to trot away from a wagon in a sudden descent,

in order to escape the whipple-trees, inflicted on the unfortunate wounded, blows and jars excruciatingly torturing and that wasted their remaining vitality. Over every rod of the way and in the best two-horse spring ambulances, a jarring motion was communicated by the absence of half the planks on the planked side of the road, and the ruts and holes cut into the clay side during a week's rain by the transportation machinery of an army of a hundred thousand men. On such a highway, and in such a manner, did these poor fellows, who stretch their hands out of these ambulances and army-wagons for tin-cupfuls of water, painfully travel—some with arms off at the shoulder, some with legs off above the knee, some with an arm and leg both off, hundreds shot through the leg or arm or the breast, some with horrible wounds of the face—even to the loss of the jaw and the destruction of speech—all presenting, in the aggregate, every possible variety of gunshot wound. . . .

Having been assigned quarters in a fine old mansion, I commenced going the rounds of the buildings used as hospitals, to administer anesthetics. There was at first a lack of supplies, and many of the wounded, who had been jolted over hard roads some eight and forty hours, were in a bad condition. Several hundred, packed into a church or hall, without change of clothing or washing, made the atmosphere unbearable almost, and gangrene and erysipelas began to make their appearance, but this was soon remedied.

One of the principal hospitals was the Baptist Church, which was literally packed with wounded. The tank intended for immersion was used as a bathing tub, and the operations were performed in the pastor's small study, back of the pulpit.

The Free Masons' hall was also filled with wounded, and there remains much of the paraphernalia of the lodge in which Washington received his degrees. I found one poor fellow who was a member of the fraternity, and at his request had his bed moved to the platform once occupied by the master's chair, where he lay and gazed upward at the mystic letter "G," as if secure under its protection.

It was a noteworthy fact that, although each of the great armies which met in the Battle of the Wilderness had at least 250 pieces of artillery, there were not in

the hospitals at Fredericksburg a dozen men wounded by cannon shot or shell. Out of the 3,000 reported as wounded in Hancock's demand, not one had received a shot or shell wound from artillery. It was also noticed that many of the wounds received were caused by balls which had glanced from trees or rocks, inflicting comparatively slight injuries. I was informed by a division surgeon that out of about 1,000 wounded under his charge, not over thirty were permanently disabled. . . .

By Thursday, May 12, the wounded at Fredericksburg were all well cared for. Surgeons and nurses had arrived. The Sanitary and the Christian Commissions were actively at work. All those patients who could bear transportation were being sent away, and I was beginning to think of making a visit to the front, when a summons came requesting me to hasten thither. There had been fearful fighting, as General Grant had swung around his army out of the bloody Wilderness, and he now faced Spottsylvania Court House.

Leaving Fredericksburg in company with an officer of my acquaintance, we started for headquarters. Just out of the town we passed some four or five hundred army wagons, each one with its four or six horses or mules ready for service, yet near the supplies of forage.

There were also large droves of cattle, brought from the western states for the use of the Army, and killed as they were needed. The road, if road it may be called, was wretched indeed, the horses often sinking in mud holes to the saddle girths. Through this ambulances and wagons were floundering along, carrying the wounded to Fredericksburg, while others, only slightly injured, plodded along on foot. Occasionally we passed an impromptu camp, where these slightly wounded men had stopped to rest, and several newly made graves showed where some poor fellows had made their last halt.

It is the most sickening sight of the war, this tide of the wounded flowing back. One has a shattered arm, and the sling in which he carries it is the same bloody rag the surgeon gave him the day of battle; another has his head seamed and bandaged so you can scarcely see it, and he weaves like a drunken man as he drags along through the hot sun; another has his shoe cut off, and a great roll of rags wound around his foot, and he leans heavily on a rough cane broken from a pine tree;

another breathes painfully and holds his hand to his side, where you see a ragged rent in his blouse; another sits by a puddle, dipping water on a wounded leg, which, for want of dressing since the battles, has become badly inflamed; another lies on a plat of grass by the roadside, with his browned face turned full to the sun, and he sleeps. So I passed hundreds, in riding a few miles. They move along silently, making no complaints, asking no questions and no favors of the passerby. Such heroic bravery and fortitude are only surpassed by their valor on the field of battle.

The appearance of the country along our way is calculated to make the scene all the more impressive. The two hostile armies which have occupied this part of the Old Dominion ever since the war begun, have fought over nearly every acre of this ground. Although there were fine farms and luxurious old Virginia homes along this road, not a house, not even a rail, is to be seen. Desolation seems to have marked it for her own. At long intervals the blackened walls, ruins of Virginia, stand as a ghostly record of rebellion. The plains are already grown up with wild bushes, and are fast taking the appearance of the old battlefields to which we used to make long pilgrimages with curious interest.

On reaching the top of an eminence, I at last saw our line, in the shape of a horseshoe, somewhat straightened out, with troops all around, in readiness for instant attack, while beyond them, crouched in rifle-pits, were our pickets. Riding through regiments and batteries I reached a house which had been pointed out to me as General Grant's headquarters, but found on my arrival that he had moved so that the building might be used as a hospital. Just then several wounded rebels were brought up on stretchers, and the surgeon in charge, who had known me after Burnside's attack on Chancellorsville, invited me to administer anesthetics, which I did. All of them had limbs amputated, and seemed very grateful afterward for the kind treatment which they received. . . .

When these wounded Confederates had been attended to, the surgeon sent an orderly with me to the headquarters of the medical director of the Army of the Potomac, to whom I reported for duty, and then, as there was no need for my services, I went on until I reached the headquarters of the Army. These occupied

a group of about twenty tents, pitched along the border of a piece of woodland. In front of one of these tents, the fly of which was converted into an awning, sat the lieutenant general with several officers and Mr. Dana, the assistant secretary of war.

I had been introduced to General Grant at Washington, and he at once remembered me and gave me a kindly welcome. Had I not previously known him, I should never have dreamed that so unpretending a person was the commander of so mighty a host. He is rather undersized, compactly built, and evidently able to endure great fatigue. His sandy hair is thick and bushy, as yet not marked with gray. The barber has had nothing to do about his face since the war commenced, wherefore much of the native expression of his countenance is lost under moustache and beard. A dry, straight-cut mouth and clear gray eyes are about all that are visible. On his forehead the skin, well tanned and browned by exposure, is drawn over the frontal bone tight and smooth as a drumhead. It is said that not a wrinkle or a frown is ever seen there. It is the expression of immovable calmness. His forehead is higher and better than it appears to be, for it is concealed by coarse, bushy hair. Incessant, close and rapid thought is going on there, however quiet the external signs may be.

The general says but few words, yet he is not morose or repulsive. This reticence is not the result of misanthropy or ill-nature, for no trial of temper ruffles the calmness of his mind. No officer is more approachable. There is no general commander so ready to dispense with ceremony or the show of rank, to listen carefully and to reply plainly to the point.

I found General Meade in excellent spirits, and he gave me the agreeable intelligence of a brilliant success which had been achieved that morning, "before breakfast," as he expressed himself. Before day, General Hancock ordered a slow advance of his line of battle in the direction of the line of intrenchments held by Ewell's corps, who were in his front. Slowly and surely did his men creep forward and the dawn of day found them close on the sleeping and unsuspecting rebels.

The firing amounted to little or nothing; there was no time or necessity for such work. The shelter tents

of the enemy, erected near their line of entrenchments, were entered by our troops before the rebels had time to escape from them; they were surrounded, cornered, hemmed in and fairly dumbfounded, and on the command being given to surrender they at once dropped their arms and became passive, resistless prisoners of war.

The artillery had not time to limber up and get away or fire a single volley before our dashing troops were among them. Even their general, whose quarters were somewhat in the rear, could not escape, and he, together with the greater portion of his command, became subservient to the orders and commands of the redoubtable Hancock. The prisoners taken numbered between six and seven thousand, including two generals, and some thirty pieces of artillery were also captured. This was the first battle of Spottsylvania Court House. After having narrated the morning's work, as he called it, General Grant suggested to me that it would be well to visit the scene of this sanguinary contest.

Although the rain fell in torrents, I followed his advice, and witnessed a scene which was horrible enough to curdle the blood of the coldest. The angle of the works at which Hancock entered, and for the possession of which the savage fight of the day was made, is a perfect Golgotha.

In this angle of death the dead and wounded rebels lie, literally in piles—men in the agonies of death groaning beneath the dead bodies of their comrades. On an area of a few acres in rear of their position lie not less than a thousand corpses, many literally torn to shreds by hundreds of balls, and several with bayonet thrusts through and through their bodies, pierced on the very margins of the parapet, which they were determined to retake or perish in the attempt. The one exclamation of every man who looks on the spectacle is: "God forbid that I should ever gaze on such a sight again."

On Saturday morning, May 14, I was awakened by the booming of cannon, and learned that the enemy were endeavoring to regain their lost position. After a hasty breakfast, I began to visit the field-hospitals, to produce anesthesia where capital operations were to be performed. The wounded were brought to these field-hospitals by the newly organized ambulance corps of their respective divisions. When there was any heavy firing

heard the ambulance corps, with its attendants, stationed nearest to the scene of action, started for the wounded. The ambulances were halted near by, and the attendants went in with stretchers to bring out the wounded. The rebels did not generally fire on those wearing the ambulance badges.

On the arrival of a train of ambulances at a field-hospital the wounds were hastily examined, and those who could bear the journey were sent at once to Fredericksburg. The nature of the operations to be performed on the others was then decided on, and noted on a bit of paper pinned to the pillow or roll of blanket under each patient's head. When this had been done I prepared the patients for the knife, producing perfect anesthesia in an average time of three minutes, and the operators followed, performing their operations with dexterous skill, while the dressers in their turn bound up the stumps. It was surprising to see with what dexterity and rapidity surgical operations were performed by scores in the same time really taken up with one case in peaceful regions.

When I had finished my professional duties at one hospital, I would ride to another, first arranging at what hour I would next return. In the garden of one house used as a hospital I noticed over twenty lifeless and mangled forms, bloody and ghastly—men without heads, heads without bodies, hands wanting arms. Some had died with fierce expressions on their faces; others who passed quietly from the stormy shores of time to the realms of eternal peace. The dead are buried where they fall, or near the hospitals in which they die. Their names are carefully written on wooden headboards, and entered into registers.

Early on the morning of Wednesday, May 18, the whizzing of shells announced that the second and great battle of Spottsylvania Court House had been commenced. It was four o'clock a. m. when the Union skirmishers advanced. The rebels were there, armed and vigilant. Both sides opened with cannon. Smoke and mist hung pale, heavy and motionless over the troops. On the right was Gibbons' First division. The Irish Legion had just joined them. They had seen some service on the Blackwater and Nansemond rivers, near Suffolk, during the investment of that place by Longstreet, but had never known the reality of a battle.

On the right, the Irish Legion charged with a fierce,

wild shout. Two hundred yards of clear field had to be traversed before the first line of the enemy's breastworks could be reached; a battery of four brass pieces played on our men incessantly as they advanced on a double quick. All this time the sharpshooters were busy; sufficient light was lacking to enable them to sight their pieces with precision, but many an officer owes his death to their marksmanship.

At last the field is crossed. The distance was short—only two hundred yards. Who does not believe it seemed a lifetime to many of those men, who, with bent body and erect bayonet, won their perilous way, foot by foot, through whistling balls, bursting shells, gnawing grape. The rebels fly from the first entrenched line. Our brave fellows clamber over cheerily and capture a few dilatory sharpshooters, who lingered too long at their post. About midway between the first and second parallels, the line of the legion grows confused—their pace waxes slow by degrees, and finally halts, preparatory to breaking—to retreating.

They did fall back a short distance, but the veterans of the old First and Second divisions were at hand. They took no notice of confusion, and heeded the driving bullets no more than a pelting rain. Through the pines they ran, with fixed bayonets, searching in vain for the rebels. A shout rent the air, and the second line of breastworks was won. The rifle pits in front were those which had been abandoned by us; but they were filled with rebel sharpshooters, who were soon dislodged and driven through a second line and behind a thick and impenetrable abattis, which was of a most formidable character. On examination it was deemed best not to attempt charging through this barrier, and the troops fell back in good order, although exposed to a galling fire of shell and canister from both flanks.

The sun went down red. The smoke of the battle of more than two hundred thousand men destroying each other with villainous saltpeter through all the long hours of a long day, filled the valleys, and rested on the hills of all this wilderness, hung in lurid haze all around the horizon, and built a dense canopy overhead, beneath which this grand army of freedom was preparing to rest against the morrow.

On Thursday, May 19, I learned confidentially that General Grant intended to swing around toward Rich-

mond, and I determined that I would swing around toward Washington, where imperative business before Congress demanded my presence. Before leaving I rode with a friend along the entire front of the Union line, an undertaking that at any time before would have been attended with too much peril to make the excitement compensate for the personal risk it involved. The life of our soldiers in intrenchments affords a theme on which a chapter might be written. I could with difficulty imagine that a few hundred yards only intervened between them and a foe as impassible as it is unyielding. Here were groups of officers chatting, writing letters and reading, and all along were privates making and drinking coffee, card playing and talking over the incidents of the late battle through which they had passed thus untouched by rebel bullet or shell. But all were ready to spring in an instant to musket or cannon.

From a house used as a signal station, and with the aid of a powerful telescope, I could see the enemy's works, a battery of sixteen guns, commanding the very place where I stood. These were only a small portion of the artillery they had posted and waiting for us. Their first line of works was firmly sodded on the outside, showing that it had been built for some time. At intervals were fox or rifle pits for sharpshooters. The line in our immediate front was a mile and a half long, and formed the arc of a circle. Behind this were two other lines, mainly under cover of woods. A captured rebel officer says that after the battle of Gettysburg from fifteen to twenty thousand men were employed constructing these works, and others between here and Richmond, to cut off any approaches, in the future, of our army on their capital. The chosen position was on a commanding ridge, and to the right and left densely wooded, leaving an open field in front over which they doubtless hoped General Grant would advance to attack them. But the general chose instead to make a flank movement rather than to lose thousands by an assault. Leaving the front on Friday, May 20, to return to Fredericksburg, I passed train after train of ambulances and wagons laden with the wounded, some groaning and writhing in anguish, but none complaining.

I saw at Fredericksburg a number of our wounded, left behind in the Battle of the Wilderness, but brought

in by a detachment sent after them. Never were a set of men more rejoiced than were these poor sufferers on seeing our men come to rescue them. They had been left with a few surgeons and attendants, and supplies for a number of days, but some roving squad of rebel cavalry who came in shortly after our departure, helped themselves freely to sugar, salt, hard tack and whatever else they wanted. Had our poor men been left there a day or two longer they must have died of starvation.

Some time after the arrival of the squad above mentioned, Hampton's Legion of cavalry arrived, and its commanding officer promptly placed a guard over the hospitals and declared nothing more should be taken, yet his men took all the sugar and coffee they could find in the haversacks of dead or wounded. Dr. Armstrong, of the Eleventh Virginia cavalry, dressed the wounds of our men, and showed them great kindness, for which act of humanity his name deserves honorable mention.

I found Fredericksburg as I had left it—one vast hospital. But during the week of my absence great changes for the better had been made. Wounded men arriving covered with dust and blood, weary and faint, were placed in the hands of the nurses in the wards they were to occupy; their tattered garments, as they often are, removed, the purifying and soothing application of a warm bath made, the wound is examined and ministered to by the surgeon in attendance, and, arrayed in clean and suitable apparel, the patient was placed gently on a hospital couch with bedding well aired and clean. The process was similar in the case of all who were brought in. There is no crowding, no confusion. Each ward had its designated number of occupants, its number of nurses—one nurse being usually assigned to ten men, while the surgeons had from eighty to a hundred patients assigned as the complement of each. This arrangement secured good and sufficient attention to the patients in all cases where those having charge showed ordinary intelligence and fidelity.

The patients appeared cheerful and patriotically happy. A shot in the arm, or leg, or side, or shoulder, had prostrated many of them. Sometimes a bandaged brow or jaw suggested a tale which told itself, and occasionally a woefully attenuated form spoke of wasting illness. But almost every occupant of the long rows of beds

was in the very best of spirits, cheerful in the memory of duty done, and exultant in the prospect of that which is to be consummated. What was particularly noticeable in these soldiers was their modesty in speaking of themselves, their generosity in mentioning their comrades. They could scarcely be brought to dwell on their own exploits and disasters, and reverted with the brave fondness of military devotion to those of the men with whom they had battled side by side. These soldiers of the Union are as enduring on the sick bed as they are valiant in the field. They do not whine nor grumble.

General Grant having decided to evacuate Fredericksburg, the wounded were removed to Washington in steamers. . . . The scene at the Washington wharf was a painfully interesting one. The high bluffs commanding a view of the landing were thronged with women and children, all in attitudes of expectation and anxiety. The entrance to the gangway was similarly beset. The gangway itself was lined with groups inquiring for friends or relations, or administering to the wants of wounded soldiers. At the end of the wharf long tables were spread with such refreshments as might be required by the suffering men, and ladies and gentlemen in the service of the Sanitary Commission busied themselves in ministering to their wants. As a general rule, the wounded bear their sufferings with almost stoical firmness. Hardly a groan was heard as they were borne along the wharf on stretchers to the ambulances, although the nature of the wounds of many must have rendered the least movement extremely painful.

Time will not enable me to describe the scores of hospitals in and around Washington, where tens of thousands of unflinching heroes have received and are receiving the nation's choicest care. The minister of the gospel, the surgeon, the philanthropist and the devoted loyal women of the metropolis vie with each other in giving their time to these wounded soldiers. The poor fellows receive tender nursing, watchful guardianship by day and by night, and all the kindly ministrations that gratitude and affection can suggest.

The hospital heroes, suffering as they do, do not lead a blank, complaining life. The invalids arranged along the extensive vistas of the wards, sprinkle with numberless jokes the surface of serious conversation. Each, in spirit at least, "shoulders his crutch and shows how fields

were won." Some of the wounds reported as slight are fearful enough to make the patient wince and the beholder shudder. The budding spring is too green and pleasant, the air too golden and balmy, to be in complete accordance with a scene like this. The windows and doors are wide open, and the gentle breeze streams through. The blue of the sky and the green of the meadow are mutually harmonious in beauty, and it is this which makes us feel there is such a dissonance between the scene without and that within.

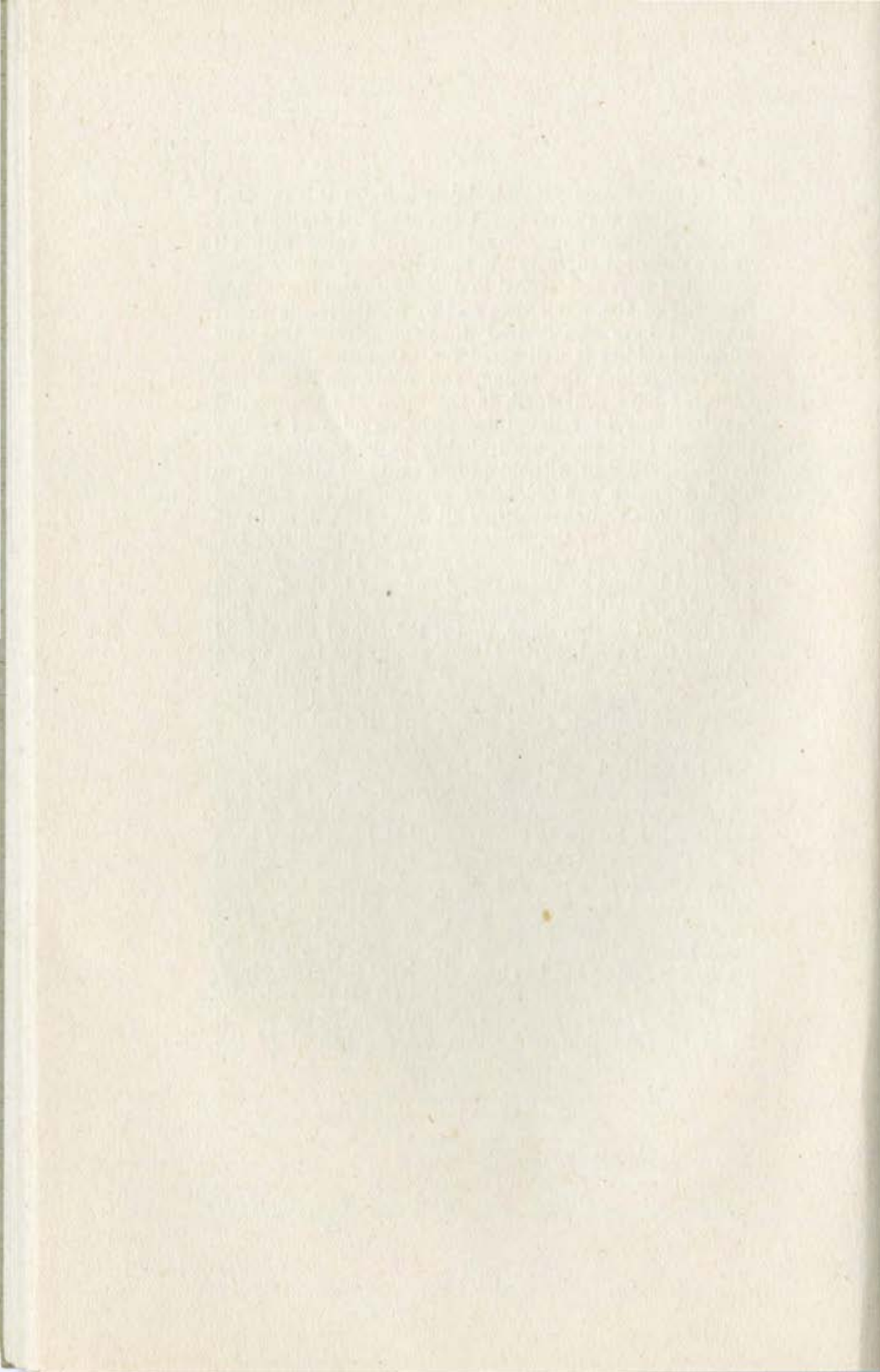
As to the hospital fare, concerning which complaints are sometimes made through the papers, perhaps not always without reason, the wants of the invalids are certainly provided for, as far as may be, in a wholesome and substantial way. Luxuries and various delicacies are not to be looked for, of course.

Plain vegetables, such as potatoes, turnips, cabbage and onions, are furnished, with good bread, and, if obtainable, good butter, rice, hominy, milk, tea and coffee, fresh beef, soups, bacon, with eggs, chicken, and custard or pudding occasionally for extremely delicate palates. Many hospitals, indeed, have a less varied bill of fare than this, particularly at certain seasons of the year, when several of these articles are scarce and to be procured only at great pains and cost. But most well-managed hospitals can point to such a variety as evidence of the liberal provision made by the government for those who have been disabled in its service. In addition to this the ample stores of those grand voluntary agencies, the Sanitary and Christian commissions, are freely opened to the constant applications made by the hospitals in behalf of their inmates. These commissions furnish to the sick a great variety of articles which the government does not furnish. Jellies, canned fruits, jams, domestic wines, cordials, lemons, may serve as a sample of the various provision flowing to stanch the soldier's wounds and soothe his sorrow, from the inexhaustible fountain of sympathizing hearts at home. Warm garments to cheer him in winter, light, loose garments to promote his ease and comfort in summer, reach the soldier to gladden him, from the same source. Indeed, this love to the poor soldier, gushing forth still buoyant, tireless, irrepressible in these grand benefactions from countless home circles over the land, forms one of the sublimest spectacles of the day. It is a mighty power,

too, in this struggle, that is doing more at this moment to strengthen the government and make its trying work successful, than any amount of brute force with all "war's dreadful enginery" to back it.

While I have endeavored to describe to you the mighty struggles of the Wilderness and of Spottsylvania Court House, I have also desired to demonstrate that the wounded soldier is well cared for. Countless home circles from which the young, and noble, and tenderly-endearred have gone forth in the cause of an imperiled country, may be relieved from the anguish of feeling that their loved ones, prostrated by bullet or disease, are left unregarded or without proper care and attention, to bleed, languish and die. The government has guarded with anxious vigilance against all this. Its paternal care has taken, all over the land, the form of a beautiful system of means and appliances aiming at the relief, comfort and healing of the maimed and war bruised. And the soldier's kin and friends may feel and know, and take comfort as they do so, that if the fate of war should number their most cherished ones among the hosts whom sickness seizes or bullets pierce, they will find on the hospital couch the ministry of kind and skillful hands to soothe and mitigate their pangs, and, if God will, win them back to health.

For myself, I am repaid for the anxiety and often wretchedness which I have experienced since I first discovered and introduced the anesthetic qualities of sulphuric ether, by the consciousness that I have thus been the instrument of averting pain from thousands and thousands of maimed and lacerated heroes, who have calmly rested in a state of anesthesia while undergoing surgical operations, which would otherwise have given them intense torture. They are worthy of a nation's gratitude—happy am I to have alleviated their sufferings. For the dead heroes we mourn—but let all the patriotic benevolence, and science, and philanthropy of the republic be brought into requisition for the benefit of the wounded.



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AN ANESTHETIC

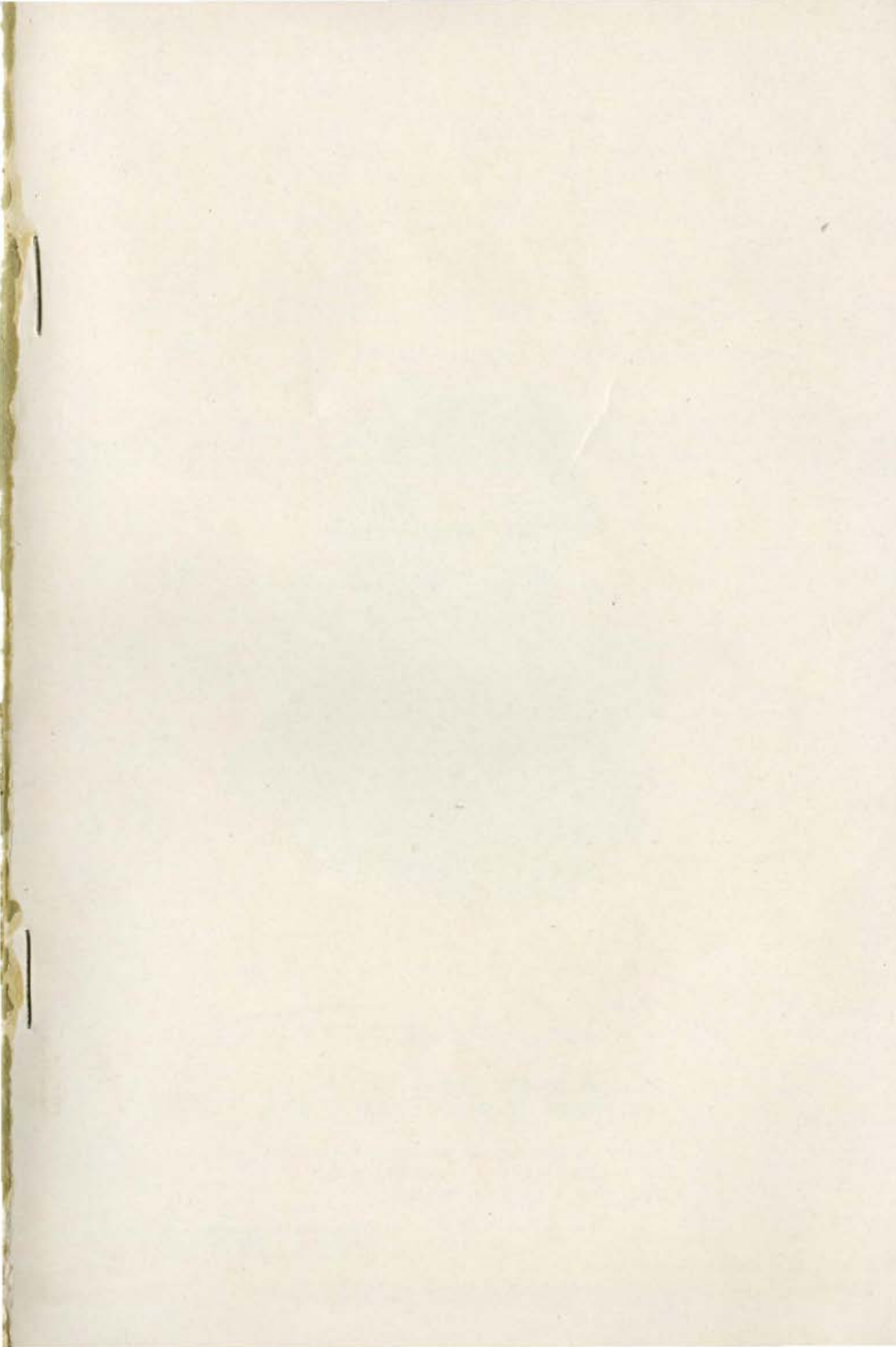
BY
J. M. MORTON, M.D.

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W. T. G. Morton

WILLIAM THOMAS GREEN MORTON, M.D.,
DISCOVERER OF SURGICAL ANESTHESIA.

"By whom pain in surgery was averted and annulled.
Before whom, in all time, surgery was agony.
Since whom science has control of pain."

Inscription on Dr. Morton's monument erected by citizens of Boston, in Mt. Auburn Cemetery, Mass.

MEMORANDA RELATING TO THE DISCOVERY OF SURGICAL ANESTHESIA, AND
DR. WILLIAM T. G. MORTON'S
RELATION TO THIS EVENT.

BY

WILLIAM JAMES MORTON, M.D.

Professor of Diseases of the Mind and Nervous System and Electro-Therapeutics
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MEMORANDA RELATING TO THE DISCOVERY OF SUR-
GICAL ANESTHESIA, AND DR. WILLIAM T. G.
MORTON'S RELATION TO THIS EVENT.

BY WILLIAM JAMES MORTON, M.D., NEW YORK.

I.

At the request of many interested in the subject, an attempt is here made to gather together, without bias and in brief form, a few facts relating to a notable discovery, for no event in the history of medicine in this country stands forth more conspicuously than that of the discovery, in 1846, of the safe use of ether in surgery.¹

William T. G. Morton, M.D., medical student in the Harvard Medical School, dentist and physician, was born in Charlton, Mass., August 19, 1819, and died, aged 48, in New York City, July 15, 1868.

His early education was received at the Northfield Academy and at the Leicester Academy in Massachusetts. His father failed in business and the lad set out to make his own way in the world. Alternating, like so many self-made and self-educated New England young men, between the counter and the school room, earning what was demanded for his support, he finally concluded to become a physician. As a first step, in 1840, at the age of 21, he was enrolled as student in the Baltimore College of Dental Surgery. This college was connected with the Washington University of Medicine, which subsequently became the College of Physicians and Surgeons of Baltimore. In 1849 Dr. Morton received the honorary degree

1. See *Trials of a Public Benefactor*, New York, Pudney & Russell, 1859. See statements supported by evidence on the claim of W. T. G. Morton, presented by Mr. Davis and referred to the select committee, 32d Congress, 2d session, 1853, Washington, 1853. See six congressional Reports referred to later on. See Report of the Trustees of the Massachusetts General Hospital and Dr. Morton's Memoir to the French Academy, both in Littell's *Living Age*, March 18, 1848. See the *American Cyclopaedia*, New York, D. Appleton & Co., 1875. Article, "Morton, W. T. G.," p. 855. See *Encyclopedia Britannica*, ninth edition. Article, "Anesthesia." See the *Century Illustrated Monthly Magazine*, New York City, August, 1894. See *McClure's Magazine*, September, 1896. See *Harper's Magazine*, June, 1899 p., 44. See *Surgical Anæsthesia*, addresses and other papers, by Henry Jacob Bigelow, A.M., M.D., LL.D., Boston, Little, Brown & Co., 1900.

of Doctor of Medicine from the Washington University above alluded to.

In November, 1844, he entered the Harvard Medical School in Boston in regular course as a matriculate and attended lectures for two years, expecting soon to receive his full degree. While pursuing his studies and practicing dentistry at the same time as a means of earning the money necessary to continue them, his attention was drawn vividly to the pain attending certain severe dental operations. The suffering involved made a deep impression upon his mind and he set about to discover some means to alleviate it.

Experiments upon animals and upon himself.—He read in his text books extensively upon the subject, and finally began a series of experiments upon insects, fish, dogs, and lastly upon himself. Satisfied that his favorite spaniel, "Nig," had not been harmed by the inhalation of sulphuric ether vapor, even subsequent to a state of complete unconsciousness, he determined to inhale the ether himself. In his memoir to the Academy of Arts and Sciences, at Paris, presented by M. Arago, in the autumn of 1847, he thus describes the experiment, and his next almost immediate experiment upon a patient:¹

Taking the tube and flask, I shut myself up in my room, seated myself in the operating chair, and commenced inhaling. I found the ether so strong that it partially suffocated me, but produced no decided effect. I then saturated my handkerchief and inhaled it from that. I looked at my watch and soon lost consciousness. As I recovered, I felt a numbness in my limbs, with a sensation like nightmare, and would have given the world for some one to come and arouse me. I thought for a moment I should die in that state and the world would only pity or ridicule my folly. At length I felt a slight tingling of the blood in the end of my third finger, and made an effort to touch it with my thumb, but without success. At a second effort, I touched it, but there seemed to be no sensation. I gradually raised my arm and pinched my thigh but I could see that sensation was imperfect. I attempted to rise from my chair, but fell back. Gradually I regained power over my limbs and found that I had been insensible between seven and eight minutes.

Experiments upon others.—Delighted with the success of this experiment, I immediately announced the result to the persons employed in my establishment, and waited impatiently for some one upon whom I could make a fuller trial. Toward evening, a man residing in Boston came in, suffering great pain, and wishing to have a tooth extracted. He was afraid of the operation, and asked if he could be mesmerized

1. Littell's *Living Age*, March 18, 1848.

I told him I had something better, and saturating my handkerchief, gave it to him to inhale. He became unconscious almost immediately. It was dark, and Dr. Hayden held the lamp while I extracted a firmly-rooted bicuspid tooth. There was not much alteration in the pulse and no relaxing of the muscles. He recovered in a minute and knew nothing of what had been done for him. He remained for some time talking about the experiment. This was on the 30th of September, 1846.

The first public notice of this event appeared in the *Boston Daily Journal* of Oct. 1, 1846, in the following terms:

Last evening, as we were informed by a gentleman who witnessed the operation, an ulcerated tooth was extracted from the mouth of an individual without giving him the slightest pain. He was put into a kind of sleep, by inhaling a preparation, the effects of which lasted for about three-quarters of a minute, just long enough to extract the tooth.

This publication induced the eminent surgeon, Dr. Henry J. Bigelow, to visit Dr. Morton's office, and he was present at a large number of successful inhalations of ether vapor by the new method in which teeth were extracted without pain. So impressed was he with the magnitude of the event and the perfection of the method of anesthetic inhalation in Morton's hands, that he at once warmly espoused Morton's desire to make public demonstration of his method. Largely through his instrumentality, permission was secured from Dr. John C. Warren, senior surgeon of the Massachusetts General Hospital, to make trial of the new method, and on Oct. 16, 1846, at this Hospital, occurred the first public demonstration of surgical anesthesia, in the presence of the surgical and medical staffs in an amphitheatre crowded to overflowing with students and physicians.

First public demonstration of Surgical Anesthesia.—It was a trying moment to this medical student when he determined to exhibit his discovery of practical ether anesthesia before his classmates, professors, and the public. But so convinced was he by reason of his experience gained in private practice, of success, that he was willing to face this ordeal. Morton came in to the amphitheatre late, delayed by waiting for the completion of a new inhaler. Just a few minutes before, Dr. Warren had remarked, "As Dr. Morton has not arrived, I presume he is otherwise engaged," apparently conveying the idea that Dr. Morton was not likely to appear. As he was about to proceed with his operation Morton entered. Amidst that sea

of faces he saw not one which was sympathizing. Blank incredulity, or at the best curiosity alone, was to be seen. Warren turning to him remarked, "Well, sir, your patient is ready." Adjusting his apparatus Morton calmly administered the anesthetic and turning to Dr. Warren said, "Dr. Warren, *your* patient is ready." The silence of the tomb reigned in the large amphitheatre while Dr. Warren made his first incision through the skin and dissected out a large tumor, while the patient made no sign, nor moved a muscle of his body. When the operation was completed Dr. Warren turned to the audience and said slowly and emphatically, "Gentlemen, *this* is no humbug," and Bigelow remarked, "I have seen something to-day that will go around the world." Thus occurred the first public demonstration of surgical anesthesia. From this crucial demonstration in October, 1846, dates the immediate and universal adoption of the practice of anesthesia throughout the civilized world. The event marked the advent of a new epoch in history, namely, the epoch of practical painless surgery.

Formal announcement of the discovery to the medical world was made by Dr. Bigelow in a paper read before the Academy of Arts and Sciences on November 3, and before the Boston Society of Medical Improvement on November 9, and published in the *Boston Medical and Surgical Journal*, Nov. 18, 1846. This constituted the first publication in the medical press of "Surgical Anesthesia," namely, of the fact that operations, dental or surgical, could be performed painlessly, whether by nitrous oxide gas, ether or chloroform.

The discovery now announced brought with it overwhelming labors, and Dr. Morton, the second year medical student within a few months of taking his degree, was compelled to discontinue his studies.

Reception of the discovery by surgeons and the public.—The news of the discovery excited enthusiasm on every hand. Dr. Warren, usually grave and dispassionate, wrote:

A new era has opened on the operating surgeon. Who could have imagined that drawing a knife over the delicate skin of the face might produce a sensation of unmixed delight? That the contorting of ankylosed joints should coexist with a celestial vision? If Ambrose Paré, and Louis, and Desault, and Chesselden, and Hunter, and Cooper, could see what our eyes daily witness, how would they long to come among us and perform their exploits once more. And with what fresh vigor

does the living surgeon, who is ready to resign the scalpel, grasp it, and wish again to go through his career under the new auspices.

And Dr. Oliver Wendell Holmes in his introductory lecture delivered before the medical class at the Harvard University, November 3, 1847, vividly said:

The knife is searching for disease—the pulleys are dragging back dislocated limbs—Nature herself is working out the primal curse which doomed the tenderest of her creatures to the sharpest of her trials, but the fierce extremity of suffering has been steeped in the waters of forgetfulness, and the deepest furrow in the knotted brow of agony has been smoothed forever.

Quickly the medical journals of the country were teeming with reports of surgical operations performed under the influence of the new agency and the newspapers spread the news far and wide. As soon as the steamer which left Boston after the 16th of October had reached Liverpool the news rapidly spread, and testimonials from Germany, Russia, India and lands even more remote, were quickly added, bearing witness of the efficacy and safety of the process and the pleasure with which it had been received. On Dec. 21, the eminent surgeon Liston amputated a thigh under ether anesthesia, and expressed his surprise and delight as follows:

“Hurrah! Rejoice! Mesmerism and its professors have met with a heavy blow and great discouragement! An American dentist has used the inhalation of ether to destroy sensation in his operations, and the plan has succeeded in the hands of Warren, Hayward and others, in Boston. In six months no operation will be performed without this previous preparation. Rejoice!”

Sir Benjamin Brodie, in a letter to Dr. Chalmers struck a note of warning:

“I have heard of this before,” he writes. “The narcotic properties of inhaled ether have been long known and I have tried it on guinea-pigs, whom it first set asleep and then killed. One question is, whether it can be used with safety.”

“The People’s London Journal” of Jan. 9, 1847, wrote:

GOOD NEWS FROM AMERICA! Hail, happy hour! WE HAVE CONQUERED PAIN. This is, indeed, a glorious victory to announce; a victory of pure intellect. And from America comes the happy news.

The London *Lancet*, well-known as the organ of the surgical and medical profession in Great Britain, said of the discovery:

The discovery of Dr. Morton—more striking to the general than to the scientific mind—will undoubtedly be placed high among the blessings

of human knowledge and discovery. That its discoverer should be an American is a high honor to our Transatlantic brethren; next to the discovery of Franklin, it is the second and greatest contribution of the New World to science, and deserves, if his discovery stands the test of time, the gratitude and reward of every civilized people and government upon the face of the world.

Needless to quote further from the overwhelming mass of literature of this time on the subject. The simple fact stands forth that pain in surgery had at last been conquered.

Origin of the term Anesthesia.—Although the child had been born into the world, it still remained to christen it, for no word in the language of the day expressed in specific terms either the act or the state produced by rendering patients insensible to the pain of surgery. Accordingly a meeting was held at the house of Dr. A. A. Gould, at which were present, Dr. Henry J. Bigelow, Dr. O. W. Holmes, and Dr. Morton. Dr. Gould read aloud a list of names which he had prepared. On hearing the word "Letheon" Dr. Morton exclaimed, "That is the name the discovery shall be christened," and others favored this name. But upon receiving the following letter from Dr. O. W. Holmes, Dr. Morton adopted the terms "Anesthesia" and "Etherization," now so familiar. Dr. Holmes' letter reads as follows:

BOSTON, November 21, 1846.

My Dear Sir: Everybody wants to have a hand in a great discovery. All I will do is to give you a hint or two, as to names, or the name, to be applied to the state produced and the agent.

The state should, I think, be called "anæsthesia." This signifies insensibility, more particularly (as used by Linnaeus and Cullen) to objects of touch. (See "Good-Nosology," p. 259.) The adjective will be "anæsthetic."

Thus we might say the state of anæsthesia, or the anæsthetic state * * * I would have a name pretty soon, and consult some accomplished scholar such as President Everett, or Dr. Bigelow, Sr., before fixing upon the terms, *which will be repeated by the tongues of every civilized race of mankind.* * * *

You could mention these words which I suggest for their consideration; but there may be others more appropriate and agreeable.

Yours respectfully,

O. W. HOLMES.

DR. MORTON.

In this connection, it may not prove uninteresting to read a letter written 46 years later by the same Dr. Holmes to Mr.



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|--------------------------|---|------------------------|-----------------------------|---|----------------------|------------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1. Dr. Henry J. Bigelow. | | | 3. Dr. J. Mason Warren. | | | 5. Dr. Morton. | |
| 2. Dr. A. A. Gould | | | 4. Dr. John Collins Warren. | | | 6. Dr. Samuel Parkman. | |
| | | 7. Dr. S. D. Townsend. | | | 8. Dr. Geo. Hayward. | | |

DR. MORTON MAKING THE FIRST PUBLIC DEMONSTRATION OF ETHERIZATION AT THE MASSACHUSETTS
GENERAL HOSPITAL, BOSTON, OCTOBER 16, 1846.

After a steel engraving published in
"Trials of a Public Benefactor," by
Nathan P. Rice, M.D. Putney &
Russell, Publishers, New York, 1859.

Edward Snell, who wrote an article on Anesthesia in the *Century Magazine* of August, 1894:

Boston, April 2, 1893.

My Dear Sir: Few persons have or had better reason than myself to assert the claim of Dr. Morton to the introduction of artificial anesthesia into surgical practice. The discovery was formally introduced to the scientific world in a paper read before the American Academy of Arts and Sciences by Dr. Henry J. Bigelow, one of the first, if not the first, of American surgeons.

On the evening before the reading of the paper containing the announcement of the discovery, Dr. Bigelow called at my office to recite this paper to me. He prefaced it with a few words which could never be forgotten.

He told me that a great discovery had been made, and its genuineness demonstrated at the Massachusetts General Hospital, of which he was one of the surgeons. This was the operation of insensibility to pain during surgical operation, by the inhalation of a certain vapor (the same afterward shown to be that of sulphuric ether). In a very short time, he said, this discovery will be all over Europe. He had taken a great interest in the alleged discovery, had been present at the first capital operation performed under its influence, and was from the first the adviser and supporter of Dr. W. T. G. Morton, who had induced the surgeons of the hospital to make trial of the means by which he proposed to work this new miracle. The discovery went all over the world like a conflagration.

The only question was whether Morton got advice from Dr. Chas. T. Jackson, the chemist, which entitled that gentleman to share, greater or less, in the merit of the discovery.

Later it was questioned whether he did not owe his first hint to Dr. Horace Wells, of Hartford, which need not be disputed. Both these gentlemen deserve "honorable mention" in connection with the discovery, but I have never a moment hesitated in awarding the essential credit of the great achievement to Dr. Morton.

This priceless gift to humanity went forth from the operating theatre of the Massachusetts General Hospital, and the man to whom the world owes it is Dr. William Thomas Green Morton.

Experiments have been made with other substances besides sulphuric ether, for the production of anesthesia. Among them, by far the most important, is chloroform, the use of which was introduced by Sir James Y. Simpson. For this and for the employment of anesthetics in midwifery he should have all due credit, but his attempt to appropriate the glory of making the great and immortal discovery, as revealed in his contribution to the eighth edition of the "Encyclopedia Britannica," is unworthy of a man of his highly respectable position. In the ninth edition of the same work his article "Chloroform" is omitted, and a fair account of the discovery is given under the title "Anesthesia."

Yours very truly,

O. W. HOLMES.

The Advent of Chloroform.—Surgical anesthesia had been already in general practice in America, in Great Britain, and on the continent for over a year, when in November, 1847, Dr., subsequently Sir, James Y. Simpson, announced that chloroform, another ether, would produce anesthetic results similar to sulphuric ether. In sending to Dr. Morton his first publication upon Chloroform Dr. Simpson writes:

My Dear Sir: I have much pleasure in offering for your kind acceptance the accompanying pamphlet. In the *Monthly Journal of Medical Science* I have a long article on Etherization, vindicating your claims over those of Jackson. Of course, the great thought is that of producing insensibility, and for that the world is, I think, indebted to you.

With very great esteem for you, allow me to subscribe myself,

Yours very faithfully,

J. Y. SIMPSON.

Edinburgh, Nov. 19, 1847.

The substitution of chloroform for sulphuric ether in no wise altered the fact that the era of surgical anesthesia began with sulphuric ether in 1846. Simpson followed the path where Morton had pointed out the way. His use of chloroform greatly promoted the general use of anesthetics.

Testimonials in Honor of Dr. Morton.—The Trustees of the Massachusetts General Hospital, quickly following the public demonstration of October, 1846, made a report according to the honor and credit of the discovery to Dr. Morton, and presented him with a silver box containing one thousand dollars "In honor of the ether discovery of Sept. 30, 1846." adding the further inscription, "He has become poor in a cause which has made the world his debtor."

Later on Dr. Morton received a divided Montyon prize from the French Academy of Sciences, the "Cross of the Order of Wasa, Sweden and Norway," and the "Cross of the Order of St. Vladimir, Russia."

In the public gardens of Boston, Mass., a monument was erected to "commemorate the discovery that the inhalation of ether causes insensibility to pain." The inscription continues, "First proved to the world at the Massachusetts General Hospital in Boston, October, 1846," Dr. Morton's deed, though not his name, is thus honored.

Yet another monument stands over Dr. Morton's grave in Mt. Auburn Cemetery near Boston, "erected by citizens of

Boston," bearing the following inscription written by the late Dr. Jacob Bigelow:

WILLIAM T. G. MORTON,
INVENTOR AND REVEALER OF ANESTHETIC INHALATION.
BEFORE WHOM, IN ALL TIME, SURGERY WAS AGONY.
BY WHOM PAIN IN SURGERY WAS AVERTED AND ANNULLED.
SINCE WHOM SCIENCE HAS CONTROL OF PAIN.

On the outside walls of the new Public Library in Boston are memorial tablets with about 500 names of writers, artists and scientists. Here Boston inscribed Dr. Morton's name.

A still more eloquent expression of the gratitude of Massachusetts is the inscription of Dr. Morton's name upon the base of the dome in the new chamber of the House of Representatives in the State House in Boston, among the selected 53 of Massachusetts' most famous citizens—"Names selected," as stated at the time of the event, "in such a way that they shall either mark an epoch, or designate a man who has turned the course of events." The following names will indicate the general trend of the selection: Morse, Morton, Bell, Emerson, Hawthorne, Holmes, Longfellow, Lowell, Edwards, Channing, Endicott, Winthrop, John Adams, J. Q. Adams, Webster, Sumner, Choate, Everett, Bowditch and others.

General Grant and Anesthesia.—An interesting incident is mentioned by John H. Brinton, Professor of Surgery in the Jefferson Medical College of Philadelphia, in his valedictory address of 1892:

In the early summer of 1864, during the fierce contest in the Virginia wilderness, I was present officially at the headquarters of Lieutenant General Grant, on whose staff I had previously served. When in conversation with him an aide approached, and said to him that a stranger, a civilian doctor, wished to see him for the purpose of obtaining an ambulance for his personal use, in visiting the field hospitals. The answer of the General was prompt and decided. "The ambulances are intended only for the sick and wounded, and under no circumstances can be taken for private use." This response was carried as given to the waiting applicant, a travel-stained man in brownish clothes, whom at the distance I thought I recognized. I went to him, and found that he was Dr. W. T. G. Morton. I asked him to wait a minute, and returned to the General. On repeating his request, I received the same answer. "But, General," I ventured to say, "if you knew who that man is, I think you would give him what he asks for." "No, I will not," he replied. "I will not divert an ambulance to-day, for anyone; they are all required elsewhere." "General," I replied, "I am sure

you will give him the wagon, he has done so much for mankind, so much for the soldier; more than any soldier or civilian has ever done before, and you will say so when you know his name." The General took his cigar from his mouth, looked curiously at the applicant, and asked, "Who is he?" "He is Dr. Morton, the discoverer of ether," I answered. The General paused a moment, then said, "You are right, doctor, he has done more for the soldier than any one else, soldier or civilian, for he has taught you all to banish pain. Let him have the ambulance and anything else he wants." Not only this, but I have learned from a printed letter of Dr. Morton, recently sent me by his family, that the hospitalities of the headquarters, ambulance, tent, mess and servant were afterwards tendered him during his stay, by order of the General commanding. Dr. Morton at this time was present as a volunteer surgeon, on the requisition of the surgeon general, to aid in the administration of anesthetics to the wounded.

Action of the Government.—Dr. Morton's claim for remuneration as the true discoverer of surgical anesthesia has been conceded in the reports of no less than six committees¹ of Congress, while no report has ever accorded this merit to his opponents. These reports are elaborate and carefully considered documents, founded upon a great mass of testimony, taken as well by Dr. Morton to support his claim as by the several contestants to destroy it. These committees reported bills, which were buried and lost in the mass of unfinished business.

The last of these favorable reports was made in 1863, by Senator, afterwards Vice-President, Henry Wilson, then chairman of the Senate Committee on Military Affairs and the Militia. After an exhaustive examination of the claims of all the contestants, he, as chairman, reports, "We are satisfied that Dr. Morton is the discoverer. We think him entitled to liberal compensation and reward." Senator Wilson continues (see Report), "Worn out and hopeless of the action of Congress, Dr. Morton memorialized the President of the United States. The President received the application, and was about to order a just and liberal compensation, when the Secretary of War, Jefferson Davis, induced him to require, as a prerequisite, a suit in one of the Federal courts, and a judgment then

1. Report of Select Committee, H. R., 28th Congress, 2d session.
- Report of Naval Committee, H. R., 32d Congress, 2d session.
- Report of Military Committee, Senate, 32d Congress, 2d session.
- Report of Naval Committee, Senate, 32d Congress, 2d session.
- Report of Select Committee, H. R., 32d Congress, 1st session.

See especially report of Military Committee, Senate, 37th Congress, 3d session.

against an army or navy surgeon for using it. This was done, and in due time, but after a change of administration, the record of judgment was presented to Howell Cobb, then head of the Treasury Department, who hesitated for a time, and at last refused, to carry out the order of the President. This memorial to the President was backed by the signatures of a majority of the members of each house of Congress." The suit was simply a friendly and technical action, taken at the request of the President. Dr. Morton made no further efforts to follow up his claim against the government, subsequent to Senator Wilson's report of 1863 and the failure to pass the bill in Congress.

A host of distinguished citizens, after careful examination of the facts, accorded their support to Dr. Morton in these various applications to Congress and on other occasions. We will here merely mention the names of Daniel Webster, Rufus Choate, Horace Mann, Charles Sumner, Marcus Morton, Louis Agassiz, R. H. Dana, Edward Everett, J. M. Carlisle, Sam Houston, Samuel F. B. Morse, James Russell Lowell, Henry W. Longfellow, Alexander Stephens, Oliver Wendell Holmes, and among physicians practically all of the greatest in the country, including instances such as the Bigelows and the Warrens in Boston, and also James Jackson, John Ware, Henry I. Bowditch, George C. Shattuck, Charles G. Putnam, Francis Minot, J. J. White; in New York, Willard Parker, Valentine Mott, John W. Francis, John Watson, James R. Wood, Gurdon Buck, J. M. Carnochan, W. H. Van Buren, T. Gaillard Thomas, G. L. Elliott, Thos. M. Markoe, Fordyce Barker, John T. Metcalfe, Stephen Smith, Lewis A. Sayre, Edward Delafield, E. R. Peaselee, Horace Green, etc.

The Semi-Centennial of Anesthesia, Oct. 16, 1896.—The discovery of surgical anesthesia has been celebrated on many occasions but upon none more notably than upon that of the "Commemoration of the Fiftieth Anniversary of the first public demonstration of Surgical Anesthesia at the Massachusetts General Hospital Boston, Oct. 16, 1846."

On this occasion the Committee of Arrangements consisted of:

J. Collins Warren, M.D., LL.D., Chairman; James C. White, M.D., William L. Richardson, M.D., Henry H. A. Beach, M.D., Frederick C. Shattuck, M.D., William Sturgis Bigelow, M.D.

And the "honorary committee" included the names of:

John Shaw Billings, M.D., LL.D., New York, Chairman; Charles W. Eliot, LL.D., President of Harvard University; Henry P. Walcott, M.D., President Mass. Medical Society; Morrill Wyman, M.D., LL.D. Cambridge
Cladius Henry Mastin, M.D., LL.D., Mobile; Robert F. Weir, M.D., New York; Hunter McQuire, M.D., LL.D., Richmond; Phineas Sanborn Conner, M.D., LL.D., Cincinnati; William Williams Keen, A.M., M.D., LL.D., Philadelphia; Horatio C. Wood, M.D., LL.D., Philadelphia; William Pepper, M.D., LL.D., Philadelphia; Henry H. Mudd, M.D., St. Louis; Louis McLane Tiffany, A.M., M.D., Baltimore; Nicholas Senn, M.D., Ph.D., LL.D., Chicago; Charles McBurney, M.D., New York; Nathaniel Pendleton Dandridge, M.D., Cincinnati; Francis John Shepherd, M.D., Montreal; J. William White, M.D., Ph.D., Philadelphia; William Osler, M.D., Baltimore; William J. Morton, M.D., New York; Frederic Shepard Dennis, M.D., New York; William S. Halsted, M.D., Baltimore; Roswell Park, A.M., M.D., Buffalo; Levi C. Lane, M.D., LL.D., San Francisco.

Addresses and papers were read by:

Chas. H. Dalton, Esq., President of the Massachusetts General Hospital; Robert T. Davis, M.D., of Fall River; John Ashhurst, Jr., M.D., LL.D., of Philadelphia; David W. Cheever, M.D., LL.D., of Boston; John P. Reynolds, M.D., of Boston; W. H. Welch, M.D., LL.D., of Baltimore; Chas. McBurney, M.D., of New York; S. Weir Mitchell, M.D., LL.D., of Philadelphia.

II.

"ANESTHESIA" PRIOR TO MORTON'S DEMONSTRATION OF 1846.

From the beginning of historical time up to the advent of practical ether anesthesia in 1846, it had been a dream and a hope of surgeons to find some way of performing operations without pain to the patient. Attempts to accomplish this object had been frequently made from century to century both with potions and with the inhalation of gases.

In the first and second centuries, Pliny, Dioscorides and Apuleius extol the efficacy of Mandragora. The latter writes, "If anyone is to have a member mutilated, burned or sawed, let him drink half an ounce with wine, and let him sleep until the member is cut away, without pain or sensation." Similar references are numerous but they have mainly an antiquarian interest. But during the period of the half century prior to 1846, efforts at intentional anesthesia took more and more a definite shape, leading step by step to the final culmination of a success, patent to all the world.

Nysten, in his "Dictionary of Medical Sciences," speaks of the inhalation of sulphuric ether as familiarly employed to

mitigate the pains of colic and figures an apparatus for its administration. In 1795 Dr. Richard Pearson published a pamphlet upon this subject, and in a work of Dr. Beddoes, published in 1796, a case is noted of deep sleep produced by the inhalation of ether. Among American authors the stupefying effects of the inhalation of ether were noted by Godman (1822), Mitchell (1832), Professor Samuel Jackson (1833), Wood and Bache (1834), etc. In "Pereira's Elements of Materia Medica," Morton's text-book at the Harvard Medical School stood recorded, "If the air be too strongly impregnated with ether, stupefaction ensues."

Most remarkable is the statement of Sir Humphrey Davy in his *Researches on Nitrous Oxide* made in 1800. After referring to the exhilarating properties of nitrous oxide gas which caused it to be popularly termed "laughing gas" and after recording observation concerning people *whom he had seen made temporarily insensible by inhaling it*, he writes, p. 32, "*As nitrous oxide in its extensive operations appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place.*"

Observations such as those thus far quoted went on apace and it was not long before "laughing gas frolics" and "ether frolics" became fairly well established. For Faraday already in 1818 had written, "When the vapor of ether mixed with common air is inhaled, it produced effects similar to those occasioned by nitrous oxide."

Among actual operators who produced anesthesia for surgical operations was Dauriol, who specifies five cases of painless operations under the effects of anodyne vapors, and more remarkable, Hickman, a surgeon of London, who in 1828, in a letter to the French Academy of Medicine, published his results and described a method of "*suspending sensibility by the methodical introduction of certain gases into the lungs*," during which "*the most delicate and most dangerous operations are performed without producing pain in the individuals submitted to them.*" Here we have a precise statement of modern anesthesia as practiced daily. But what the gases were we do not know. Take Davy's statement and this statement together and it is evident that it was necessary for Morton to take but a very small step for-

ward to succeed and equally evident that nothing done by Jackson, Wells or Long, as subsequently claimed by them, necessarily furnished for Morton the stepping stone.

In 1839, on the occasion of an ether frolic given in Athens, Ga., a young man by the name of Wilhite, who happened to be present, compelled a negro boy to inhale ether and forced it upon him until complete insensibility took place. Later on, in 1842, Wilhite became a student of Dr. Crawford W. Long, also of Georgia, and told him of his experience. Dr. Long, familiar with these ether frolics, allowed a patient, Venable, to inhale the ether and removed a small encysted tumor about one-half an inch in diameter from his scalp. He tried the same experiment in a few more minor operations (three times in 1842, once in 1843, and once in 1845).

In these operations Long did not administer the ether, but the patient administered it to himself. The effect of the ether was not carried beyond the exhilarating stage, and he abandoned its use. He made no publication of these experiments or of their results until December, 1849. Under this date, writing to the *Southern Medical and Surgical Journal*, he says:

The result of my second experiment in etherization was such as led me to believe that the anesthetic state was of such short duration that ether would only be applicable in cases in which its effects could be kept up by constant inhalation during the time of the performance of the operation. Under this impression, up to January, 1847, I had not used ether in but one case in extracting teeth, and thus deprived myself of experimenting in the only class of cases which are of frequent occurrence in a country practice. Elsewhere in his article Dr. Long remarks, "Others more favorably situated engaged in similar experiments and consequently the publication of etherization did not bide my time."

Long did not carry his experiments far enough to reach a decided result.

Much similar to Dr. Long's experience was that of Horace Wells of Hartford, Conn. Two years after Long, in December, 1844, Colton was giving "laughing gas frolics" in popular exhibitions in Hartford, Conn. One of the audience, Col. Samuel A. Cooley, took the gas. Upon recovering from its effects and finding his legs had been injured without his being conscious of it, he made the observation that "he believed a person could undergo a severe surgical operation without feeling any pain at the time." This deduction Wells (who was also present as

a spectator) accepted from Cooley, and Cooley and Wells, together with Colton and Riggs, proceeded to make application of it, by operating upon Wells. Wells was the patient, Colton administered the gas, and Riggs pulled a defective wisdom tooth. Wells experienced no pain and was profoundly impressed with the success of the operation. We quote the only essential part of his first published statement, made to the *Hartford Courant*, Dec. 7, 1846, about two months after the Boston announcement by Morton:

I accordingly resolved to try the experiment of inhaling an exhilarating gas myself, for the purpose of having a tooth extracted. I then obtained some nitrous oxide gas, and requested Dr. J. M. Riggs to perform the operation, *at the moment when I should give the signal*, resolving to have the tooth extracted before losing all consciousness. This experiment proved to be perfectly successful; it was attended with no pain whatever. I then performed the same operation on 12 or 15 others with the same results.

No one to-day would regard this degree of consciousness as compatible with true anesthesia.

Cooley subsequently manufactured the gas, and he and Wells entered into a partnership to administer gas and pull teeth.

"Our plan was," says Cooley, testifying in 1852,¹ when the subject came up before Congress, "to keep the whole matter a secret and under our sole control, which would insure us a large and lucrative business."

But Wells now abandoned the matter. Cooley, in his testimony, continues:

"He (Wells) said he was disappointed in the effects of the gas and that it would not operate as he hoped and thought it would, as there was no certainty to be placed upon it, and consequently he should abandon it, as he had so much other business to attend to, and as the gas would not operate in all cases alike, and, therefore, could not be trusted."

This abandonment and failure is proven by many witnesses. Probably the most interesting of these is Wells himself, who as above quoted, has merely claimed that in a period of time comprising two years (Dec. 1844 to Dec. 1846) he had "performed the same operation on 12 or 15 others," although he was in the active practice of dentistry.

After a fourth experience in extracting teeth in Hartford, in January, 1845, Wells visited Boston and secured permission

1. Statements supported by evidence, submitted to the Senate Committee, 32d Congress, 2d session, Jan. 21, 1853. Appendix, p. 7.

from Dr. John C. Warren to try the gas before the class. The operation was the extraction of a tooth. The experiment failed, the patient screamed with pain, and Wells returned home. Referring to this experience at Boston, Dr. P. W. Ellsworth of Hartford wrote, "The first experiment failing, he ceased making any further personal efforts." And again, G. Howell Olmstead, Jr., of Hartford, says in his sworn testimony:

Having been associated in business with Dr. Wells and being very intimate, we had a great many conversations about the gas * * * and I considered he had abandoned the thing entirely, as he expressed himself to me that the operation in some cases proved a perfect failure.

George Brinley, of Hartford, testified that Wells said to him that "he was stupid that he had not pursued the discovery."¹

Thus Wells also, like Long, did not carry his experiments far enough to reach a decided result.

There remain no further anesthetic events prior to 1846 to record.

"But yet—and yet," to quote the eloquent words of the distinguished surgeon, John Ashhurst, Jr., of Philadelphia, "surgeons went on in every country, cutting and burning, and patients went on writhing and screaming, until on the 16th day of October, in the year 1846, in the Massachusetts General Hospital, Dr. John C. Warren painlessly removed a tumor from a man who had previously been etherized by Dr. William T. G. Morton, and surgical anesthesia became the priceless heritage of the civilized world."

III.

*"The invention all admired, and each how he
To be the inventor missed, so easy it seemed,
Once found, which yet unfound most would have thought
Impossible."*
—MILTON.

Thus far, Morton stands alone, as the *innovator and inventor of practical ether anesthesia*. Expressed in these terms no one disputes the fact. Up to the moment of the public demonstration of Oct. 16, 1846, the world was barren of relief from the pain of surgery. No such practice existed.

And barren as was the world of relief from pain, it was equally barren of any published statement that such relief could actually be obtained. Of those who were soon to appear upon the scene as claimants, not one could produce a written or printed word—

1. All of the testimony above produced is taken from "Statements Supported by Evidence," 32d Congress, 2d session, Jan. 21, 1853.

nor could point to a publication in medical journal or public press, to show that he had tried to do a similar thing.

*"To know a thing and not to express it,
Is all one as if he knew it not."*

—BURTON'S ANATOMY OF MELANCHOLY.

Decisive as would seem to be the events thus far narrated, they did not free the invention nor the inventor from what the London *Lancet* at the time humorously referred to as "the large class of jump-up-behinders."

The first after-claimant was Dr. C. T. Jackson of Boston. He claimed to have said, "Try ether." The knowledge conveyed in this suggestion was, as we have seen, common to textbooks. Morton proved that he had been "trying ether" many months before the date set for this conversation. Next, Jackson claimed that Morton had worked under his directions. If so, no one of the participators in the early decisive test operations, public or private, knew of it, nor had anyone seen him or heard that he was interested in the matter. He had never even witnessed an operation, and did not visit the Massachusetts General Hospital until more than two months subsequent to the date of the public demonstration by Morton. In this interval of time he frequently denounced the discovery roundly as a dangerous practice. About this time, the late Professor Louis Agassiz said on one occasion to Dr. Jackson, "If Dr. Morton had killed his first patient, would you (Jackson) have accepted the blame just as now you ask for the honor?" Dr. Jackson remained silent. -

The enrollment of Morton's name in the Massachusetts "Hall of Fame," in the rotunda of the State House, has expressed Massachusetts' final verdict.

Chronologically, the next after claimant, subsequent in time about two months after the Boston announcement of 1846, was Horace Wells, whose "12 to 15" experiments and final abandonment have been alluded to. The inhalation of nitrous oxide, in his hands and time, was not pushed to the point of the present familiar anesthetic stupor, but only to the point of a partial intoxication where a partial numbness was obtained.

Wells, in 1847, stimulated by the success of ether anesthesia, went to New York to try to demonstrate nitrous oxide anesthesia. Here also again, as in Boston, the effort failed.

The following letter of Dr. Wm. H. Van Buren, one of New York's distinguished surgeons, is interesting in this connection:

NEW YORK, Oct. 1, 1858.

I recollect distinctly having been present in the operating theatre of the New York Hospital, in 1847, to witness an operation by the late Dr John Kearny Rodgers. Dr. Horace Wells was present, and administered nitrous oxide gas to the patient, with the object of producing insensibility to the pain of the operation, but the attempt was unsuccessful, as the patient seemed to suffer about as much pain as might have been anticipated under ordinary circumstances. A large number of surgeons and physicians were present among whom was Dr. Valentine Mott, and other prominent members of the profession.

As the supply of the supposed anesthetic agent was apparently ample, judging from the large size of the bags containing it, and its administration conducted fairly and fully, the general impression upon the spectators seemed to me, to be decidedly unfavorable as to its power of producing insensibility to pain.

WM. H. VAN BUREN, M.D.

Not until nearly 17 years later on, in 1862,¹ did laughing gas become an acknowledged anesthetic, when Drs. Dunham, of New Britain, and Smith, of New Haven, Conn., took the matter up with Colton. It then became clear why Wells and others had failed; operators had been using, as did Wells, the small gas bag, and the exhilarating dose of Sir Humphrey Davy; the amount of gas had been too small; they had feared to produce complete stupor, and had believed that pain was annulled during the excitement stage which they dared not exceed.

It was a narrow margin from a possible discovery, but many a discovery has been lost by a narrower one.

It was only in 1864² that Colton established the Colton Dental Association in New York, and in 1868 that the Dental Hospital of London adopted the use of nitrous oxide. This use is still confined to brief operations like the extraction of teeth.

As we have seen, the idea of using laughing gas was not new with Wells; this idea originated with Davy. Nor was the idea new of performing a surgical operation under the influence of inhaled gases. This too had been suggested by Davy and practiced by Hickman in 1828, by Dr. Crawford W. Long of Georgia in 1842, and by others:

To Wells belongs the credit of a conviction, which many had

1. See Trans. Am. Surgical Association, 1897, Surgical Anesthesia, by John Collins Warren, M.D.

2. *Ibid.*

shared with him, that surgical anesthesia was possible, but it was his misfortune not to be able to succeed and convince others of his success. His method was faulty.

Third in line of after-claimants was Dr. Long of Georgia. Three years after 1846, he made a modest statement of his experiences already referred to and worthy of all praise. But in 1877 Dr. J. Marion Sims brought Dr. Long prominently forward as the true "discoverer of anesthesia." Dr. Long himself made no such claim. As in the case of Wells his own words speak for themselves.

He wrote, as already quoted, "the publication of anesthesia did not bide my time."

Erase from the history of anesthesia, Jackson's suggestion (common to text-books) and Long's and Wells' attempt, (both of them failures, unpublished and unacted upon by the profession of medicine), and we should not take a step backward in anesthesia. It does not appear that Morton could have learned from Wells or Long anything but the lesson of failure.

IV.

Dr. Morton's Personality.—Announcing his discovery at the age of 27 and dying at the comparatively early age of 48, Dr. Morton's 21 years of adult and active life were entirely consumed with the turmoil and pain of controversy. The eminent surgeon, Dr. Henry J. Bigelow, writes of him:¹

Morton had a combination of qualities such as few other men in the community possessed. Fertile in expedients and singularly prompt in execution, he was earnest and persevering beyond conception. His determined persistence is remembered at this even interval of time, as having been a terror to his best friends. Nobody denies that Morton, recklessly and alone, faced the then supposed danger attending ether stupor. If all accredited scientific opinion had not been at fault, and in the case of any fatal result, he would have infallibly been convicted of manslaughter, with little probability that anybody would have come forward to say, "The responsibility is not his, but mine."

Again that distinguished citizen and philanthropist of Boston, Mr. John J. May, in a letter written in 1895 to Dr. Hayden, alludes to another phase of Dr. Morton's character:

1. Extract from "A History of the Discovery of Modern Anæsthesia," by Henry J. Bigelow, "Century of American Medicine, 1776-1876." Philadelphia, 1876

BOSTON, April 18, 1895.

DR. W. R. HAYDEN,—

My dear sir: I wish that you had known William Thomas Green Morton. I knew him well. I met him not infrequently in those years when the subject of anesthesia engrossed his time and thoughts.

I like to bear him in mind as he was—a refined courteous gentleman. Always neat in personal appearance, affable in manner, thoughtful of others' feelings and convenience, generous and warmly appreciative of any kindness and sign of good will offered to him.

Though enterprising and ardent—even sanguine—in business pursuits (in which he was remarkably methodical), and although often grieved and indignant at the gratuitous injuries and misrepresentations heaped upon him by unprincipled opponents, I do not remember that I ever heard from his lips an opprobrious epithet, or saw indications of an effort to retaliate upon his enemies.

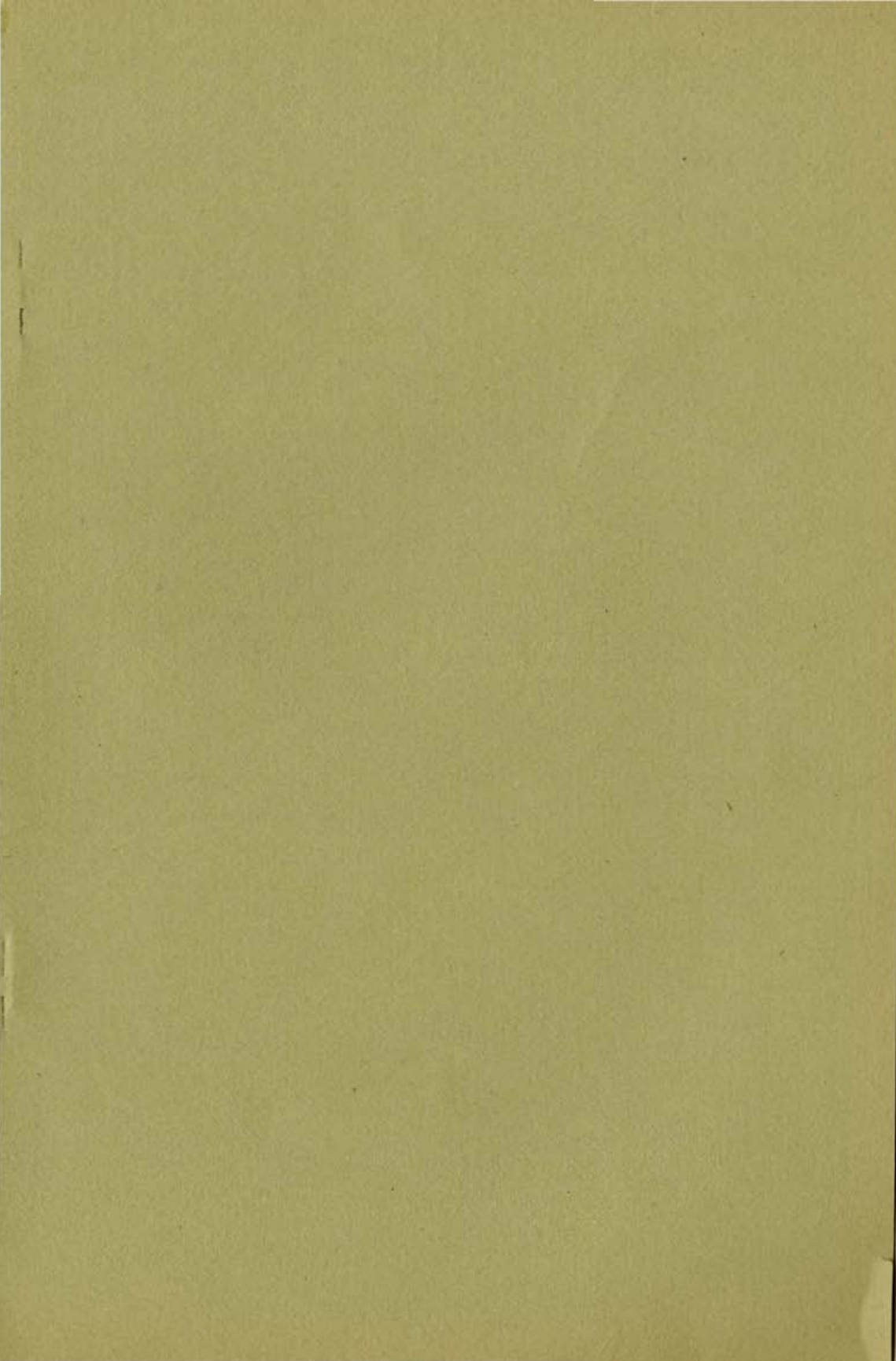
Respectfully yours,

JOHN J. MAY.

In personal appearance Dr. Morton was tall, handsome and of engaging manners. Friends and ardent supporters fell to his lot as to few, in the trying circumstances of a long sustained controversy. His character, as indicated by the above quotations, was a singular combination of Christian fortitude and charity to all, and of intense perseverance and activity. His devoted wife was cast in the same mold of forbearance and forgiveness. But the spell of anesthesia had been cast upon those two lives as upon the *morituri* of old—they did their duty to the end. No one unfamiliar with the story of the attempts to rob him of his just merits through 21 years of bitter attack, including 10 years of vain struggle with the government for even a most modest recompense, can realize at this day the weight of the powers of adversity which beset his course. Congress ignored his request for remuneration in spite of six majority reports of committees in his favor. The government, finally, as a last retreat, taunted him into bringing a technical suit for infringement of a patent (which almost at the moment of its issuance he had freely thrown open to the world) against some one medical officer of the government to establish a legal status, and thereupon it was falsely represented that he had endeavored by suit to prevent the government from using anesthetics in the army and navy. Having spent a very considerable fortune to introduce his discovery and defend himself from attack, he was reduced to poverty. It was not many years until life itself

was quietly crushed out beneath the load. The discovery of surgical anesthesia, while a boon to the world, was a tragedy to its author, and to his family. Science, civilization, had given with too free a hand and required a compensating sacrifice, whose lot was his. Though his misfortunes have been the foundation of countless fortunes to others, his sorrows the source of inexpressible happiness to millions; though his life was the one single life unblessed by what was to others blessing, he never complained, but pursued his way, simply, patiently and honestly, humbly thankful to have been a benefactor to his race. Dr. S. Weir Mitchell, in a poem, "The Birth and Death of Pain," read Oct. 16, 1896, on the occasion of the semi-centennial of Anesthesia, already alluded to, writes,

How did we thank him? Ah! no joy-bells rang.
 No pæans greeted and no poet sang,
 No cannon thundered from the guarded strand
 This mighty victory to a grateful land!
 We took the gift, so humbly, simply given,
 And coldly selfish—left our debt to Heaven.
 How shall we thank him? Hush! a gladder hour
 Has struck for him; a wiser, juster power
 Shall know full well how fitly to reward
 The generous soul, that found the world so hard.



WILLIAM JAMES MORTON, M. D..

19 East 28th Street, New York.

FOUR GREAT ANGLO-AMERICAN MEDICAL DISCOVERIES.¹

BY DR. WILLIAM ROYAL STOKES,
Professor of Pathology.

When I first began to consider the subject of this address I was seized by an almost irresistible temptation to trace for you the development of medicine from its beginning to its brilliant present. Is there anything more striking than the contrast between the medicine of the twentieth century and that of the many centuries preceding it? But I must turn my back on this tempting opportunity in deference to my twentieth-century audience.

But strive as I may to ignore the years that are long passed, I cannot entirely avoid them. I must therefore ask you to forget for the present such things as railroads, telephones, printed books, presidential elections, and other similar privileges of civilization, and to transport yourselves in fancy to the island of Cos in the Grecian archipelago, and to the year 460 B. C., when Hippocrates, the greatest of ancient physicians, was born. Hippocrates produced upon medicine an influence which is felt today.

Living successively in Greece, Asia Minor, and Egypt, he both wrote and collected a series of writings which contain many facts still useful in our present medical practice. Passing over his various pathological views concerning the origin of all diseases in the irregular action of the four cardinal fluids—yellow bile, black bile, mucus, and blood—we cannot help but admire his accurate observations in dietetics, the symptoms of disease, diagnosis, and prognosis. His therapeutic skill was remarkable for the period in which he lived, and his knowledge of surgery embraced the proper methods of recognizing and treating fractures and dislocations, hernia, and tumors. He also practiced such operations as trephining, paracentesis, and amputation for gangrene. Many important medical facts were thus known even at this early date, and one could spend much

¹ Introductory address before the faculty and students of the College of Physicians and Surgeons, Baltimore.

friends, and it was certainly partially due to the careful training in scientific observation which he received from Hunter that his mind was prepared to receive and use the facts which led to his great discovery. After receiving his medical education he insisted upon returning to Gloucestershire, although he received many tempting offers to remain in London.

It is pleasing to learn from Dr. Baron, his faithful biographer, that Edward Jenner was a man of many attainments. He was very fond of the beautiful scenery which surrounded him, and although possessed of a busy practice, he found time for the study of natural history. He made interesting observations on the various fossils found in the rich geological strata of his neighborhood, and collected an extensive paleontological museum. He assisted John Hunter in his celebrated experiments on the hedgehog, showing how the temperature dropped from 97° F. in the summer to 48° F. in winter during hibernation. As a naturalist he explained in true Darwinian style the curious habit of the cuckoo in laying her eggs in the sparrow's nest to hatch, by showing that this bird does not remain in England long enough to both lay eggs and incubate them. The species must therefore be preserved by other birds. He also added much to the knowledge of the migration of birds.

He was said to be a charming companion, and was somewhat of a poet. He also wrote songs and set them to music, and, either with the violin or flute, he took part in many musical parties in his neighborhood. He detested cards and all games of chance.

If vaccination had not overshadowed all of his other work, Jenner would still have remained well known in medicine. His observations concerning the relation between sclerosis of the coronary arteries and angina pectoris, and between rheumatic endocarditis and chronic heart disease, were classical, but we forget, perhaps unjustly, all these things when we consider the discovery of vaccination.

We can almost trace the steps which led to this discovery—his refusal of offered honors in London, his training under Hunter, his residence in the only portion of England where cowpox was endemic, and his instinct as a naturalist.

Before Jenner completed the study of medicine the folklore of his country concerning cowpox was impressed upon his mind by a young

country girl, who assured him that she could never take smallpox, as she had already had cowpox. This fact haunted him, and for years before his discovery he mentioned it time and again to many of his associates, including John Hunter. Having observed the immunity against smallpox enjoyed by milkers who had contracted cowpox from cattle, he determined upon a bold experiment. In November, 1789, he inoculated his two-year-old son with swinepox matter, and produced a few vaccinia pustules. Later he inoculated the child many times with smallpox pus, but the disease never developed. It must have required firm courage and faith to insert this virus into his first-born.

Later, on May 14, 1796, he was able to prove that cowpox could be transmitted from one person to another, thus producing artificial immunity against smallpox. Pus from the hand of Sarah Nelmes, infected by milking cattle, was inserted into the arm of James Phipps, who later developed a typical vaccinia pustule. Jenner then introduced the pus from a smallpox pustule into the tissues of this boy, but smallpox did not develop. This classical experiment was followed by a series of inoculations by which the virus was transferred from children successfully inoculated with cowpox or vaccinia to other children who had never suffered from either cowpox or smallpox. All of these children developed successful vaccinations. They were then all inoculated with pus from smallpox cases, but not one of them developed smallpox. Thus, to continue in his own words, "they (the experiments) proved that the matter in passing from one human subject to another through five gradations, lost none of its original properties."

These, together with other observations which we cannot consider at this time, he published in June, 1798, under the title of "An Inquiry Into the Causes and Effects of the Variola-Vaccinae, a Disease Discovered in Some of the Western Counties of England, Particularly Gloucestershire, and Known by the Name of the Cowpox."

The publication of an alleged preventive for smallpox caused much popular discussion. A few broadminded men at once took up the suggestion and soon confirmed Jenner's observation. The practice of vaccination spread through the civilized world, and Jenner received hundreds of commendatory letters from France, Spain, Austria, Turkey, India, Arabia, Denmark, Sweden, Russia, and America.

The importance of this discovery was first recognized in America in March, 1799, when Dr. Waterhouse, professor of the theory and practice of physic in the University of Cambridge, now Harvard University, Massachusetts, introduced the practice of vaccination in the New World. President John Adams took great interest in the discovery, and later Thomas Jefferson had all of his family vaccinated.

You who are now present may observe an interesting bit of local history on your way to lectures in the morning. If you will stop for a moment and look at the old house on the southwest corner of St. Paul and Pleasant streets you will see where Dr. James Smith, the father of vaccination in Maryland, began the use of vaccine obtained from England in May, 1801, soon after it reached New England. He established a vaccine institute in Baltimore, and after vaccinating all of his family, he inoculated them with smallpox pus at the bedside of a patient. None of them developed smallpox, and this striking demonstration greatly helped the cause of vaccination in this country.

His tremendous correspondence and the frequent visits to London had caused Jenner to lose most of his practice, and his friends proposed a grant of money from parliament. After some haggling they obtained a grant of £10,000. He had spent £6000 on his experiments and about £1000 on postage and incidentals, although he did not mention the latter item when called before the parliamentary committee. They did not pay his money to him for two years, and when he received it he found that £1000 had been extracted from the grant as fees. "Shade of Aesculapius! Two thousand pounds for the discovery of vaccination!

Jenner also received another rebuff at the hands of his fellow-countrymen. Some of his friends thought that he should become a member of the Royal College of Physicians, but the voice of pompous authority at that time decided that he must take the regular examination and apply for membership. His celebrated reply was as follows:

"In my youth I * * * obtained a tolerable proficiency in the Latin language, and got a decent smattering of the Greek. * * * At my time of life to set about brushing up would be irksome to me beyond measure. I would not do it for a diadem. That, indeed, would be a bauble. I would not do it for John Hunter's museum."

It is more pleasant to turn to the bright pages in his life-history and

learn of the many honors showered upon him by most of the learned societies in Europe and America. Among the most important were the medical diploma from Oxford, the appointment as foreign associate of the Medical Society of Paris, and the fellowship of the American Society of Arts and Sciences. This last diploma was signed by President John Adams. He was also appointed physician extraordinary to the King, and in all he received 47 honorary degrees. An amusing incident occurred when they conferred upon him the "*Freedom of the City of Dublin*." The notice was accompanied by a bill for £10. This was rather expensive freedom.

It is hard in these days to fully appreciate the great benefits of vaccination, but let us remember that in Jenner's day one out of every 14 human beings died of smallpox. In 1890 only 38 persons died of smallpox in the registration area of this country, making a rate of about one death from smallpox to every 1,000,000 of inhabitants.

Although the discovery of vaccination has practically relieved mankind of one of the most dreaded of all scourges, yet we have Jenner to thank for another great gift to humanity. His observations first taught men to think of the great principles of protective inoculation and immunity, and the wonderful discoveries of our day have proceeded from this beginning.

The next great medical discovery which we shall briefly consider was made by the late Dr. Walter Reed, a surgeon in the United States army. You are all aware of his observation that yellow fever is conveyed from one person to another by a special variety of the mosquito.

Walter Reed was born in Gloucester county, Virginia, in 1851, and after studying medicine at the University of Virginia and Bellevue Hospital Medical College, he entered the army as a surgeon. In 1892 he made some brilliant studies at the pathological laboratory of the Johns Hopkins Hospital. He was the first to describe the important focal necroses in the liver in typhoid fever, which observation directed the attention of other pathologists to these important lesions in other diseases. Doubtless while working here on the livers of typhoid-fever cases he first caught his inspiration for his very famous work on the means of spreading yellow fever.

When the United States army occupied Cuba, Dr. Reed and his

assistants, Drs. Lazear and Carroll, all of whom were known personally by many of us here in Baltimore, were detailed to carry on experiments in Cuba for the purpose of determining the cause of yellow fever. They carried on their work at Quemados, Cuba, and in order to make a series of comparative experiments they erected two buildings.

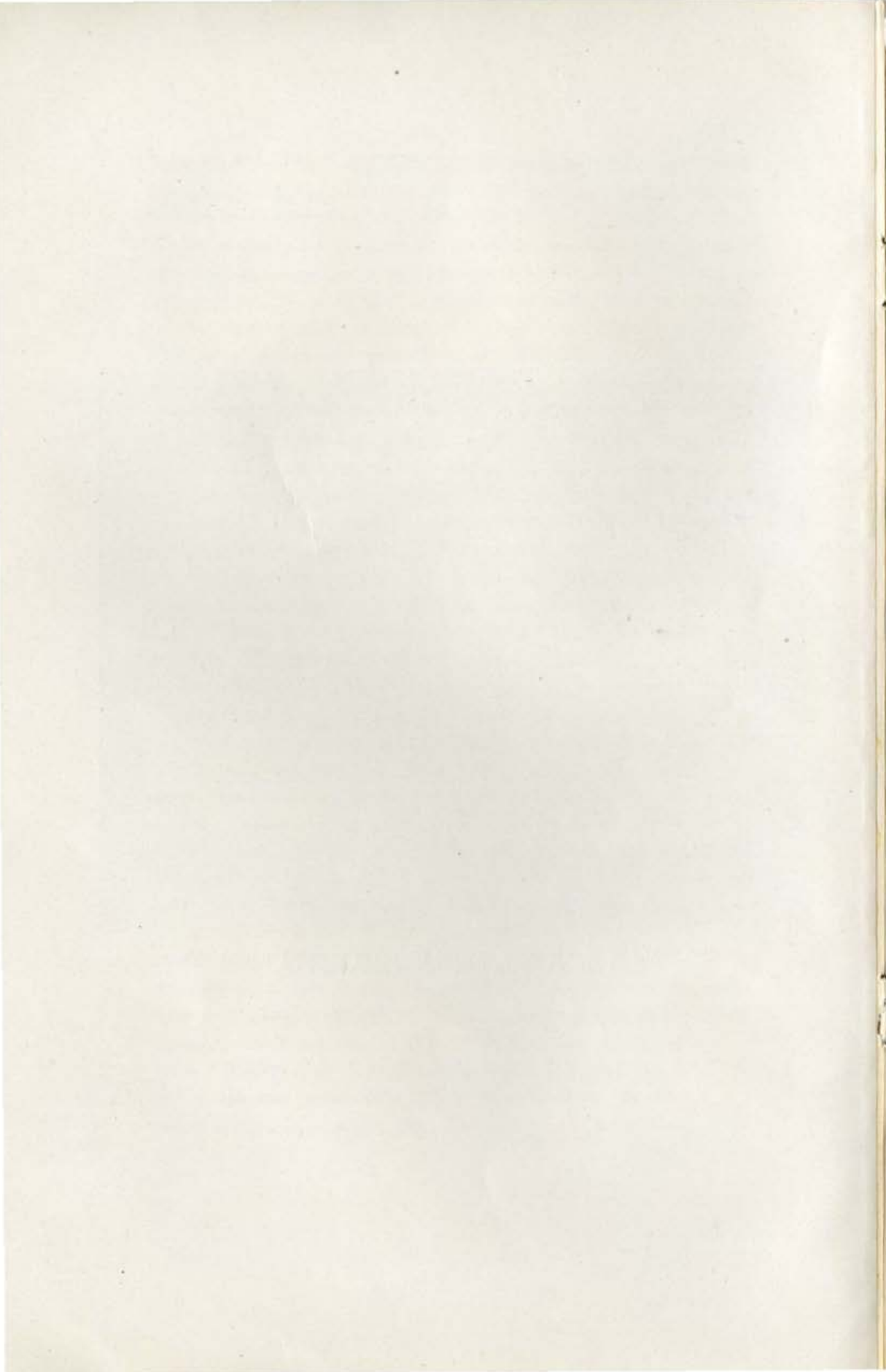
Building No. 1, called the "Infected-Clothing Building," was tightly built, and was carefully protected against mosquitoes by screens. Three large boxes of pillows, pillowslips, and blankets from yellow-fever patients were distributed through the building. Seven young Americans lived in this building for two months, and even wore the pajamas, undershirts and nightshirts, and slept on the mattresses with the blankets and sheets all from yellow-fever cases. Yet not one of these men developed yellow fever, and these experiments effectually disposed of the hazy idea that yellow fever was caused by the fomites or exhalations from infected clothing.

Dr. Reed and his associates now became convinced that yellow fever was conveyed by other means, and as they already suspected the mosquito, they proceeded to erect Building No. 2, or the "Infected-Mosquito Building." No infected clothing was allowed in this building, all clothing and bedding being disinfected by steam.

Thirteen young American soldiers volunteered for these perilous experiments in this building, allowing themselves to be bitten again and again by infected mosquitoes from yellow-fever patients. Ten out of the thirteen developed yellow fever, and Dr. Lazear died from this disease. It takes a courageous man to risk his life in battle, but no soldier ever met a braver end than Jesse William Lazear, dying of yellow fever in his tent at Columbia Barracks in Cuba.

The value of this important discovery can be estimated from a commercial and a humanitarian standpoint. Let us first consider its commercial aspect. Yellow fever was first observed in this country in 1693, and since that time it has invaded the United States 95 times. We have no means of discovering the total cash value of these 95 epidemics, but the great epidemic of 1878 cost this country \$100,000,000.

The "Yellow Jack" has also slain its millions, and from 1853 to 1900 in Havana yellow fever killed 35,952 persons. In 1901 Major Gorgas of the United States army took control of the sanitary govern-



ment of Havana and made practical application of Reed's discovery, and since September, 1901, not one case of yellow fever has occurred in Havana.

Although Dr. Reed returned alive from Cuba, he died of appendicitis in Washington in the fall of 1902. His many friends, through the American Medical Association, have already raised a large sum for the purpose of commemorating his work in some appropriate way, and I hope that they will erect a suitable monument to this great American soldier, who has already saved more human lives than ever a Napoleon or an Alexander destroyed.

And now in the very few minutes which remain I shall link together two other discoveries, the one English and the other American. These observations have placed surgery in the position of an approximately exact science. I refer to the discovery of antiseptics and anesthesia.

Sir Joseph Lister was the first man to emphasize the importance of using clean instruments, dressings, and other appliances while performing surgical operations. In 1878 he published his article entitled "The Germ Theory of Fermentation and Its Bearing on Pathology." He emphasized the importance of keeping a wound free from all bacterial life, and thereby greatly lessened the mortality in all surgical procedures.

It is difficult in these days to appreciate the havoc wrought by surgical infection in preaseptic times, but these are things of the past, and have been replaced by the brilliant surgery of the brain and peritoneal cavity, which many of you have already witnessed. Innumerable lives have therefore been saved by Lister's contribution to medicine. Our friends, Professor Latimer and Professor Keirle, could tell you another story. They might vividly describe the dreaded hospital gangrene, passing through whole wards filled with wounded, and leaving at times a mortality of 20 to 40 per cent. They might recall long night vigils when they waited for secondary hemorrhage after amputations.

The discovery of anesthesia is a matter of especial interest to the College of Physicians and Surgeons and the Baltimore College of Dental Surgery, since these affiliated institutions helped to train and honor William T. G. Morton, the discoverer of ether.

Dr. Morton was born in Charlton, Mass., on August 9, 1819, and in 1840 he studied dentistry at the oldest dental college in the world, the

Baltimore College of Dental Surgery. This college was then connected with the Washington University of Medicine, which has since become the College of Physicians and Surgeons of Baltimore.

Various attempts were made during antiquity and the Middle Ages to find a substance which would produce insensibility to pain, but such attempts were unsuccessful. The decoction of mandragora, opium, and cannabis indica were all used as inhalations, but their use proved unsatisfactory.

When we see a patient sink peacefully to sleep and spend hours under the surgeon's knife without any pain we find it impossible to appreciate the terrors of a surgical operation in the olden times. And yet picture to yourselves an operation without anesthesia for the removal of a stone in the bladder lasting an hour—the writhing and shrieks of the patient only interrupted by the grinding noise of crushing the stone or the admonitions of the surgeon to the victim; imagine, if you can, the sight of the instruments, and the patient slowly witnessing the amputation of a limb, only to suffer the application of red-hot irons in order to stop the bleeding; add to this the shock, often fatal, which followed such operations, and you have a faint idea of what surgery was before anesthesia.

We have not the time to consider the evolution of anesthesia, and must pass over the hints given Morton by Sir Humphrey Davy and Horace Wells, who both worked with nitrous oxide. Dr. Morton left Baltimore, after graduating in dentistry, and began the study of medicine at Harvard University in November, 1844. It is said that his preceptor, Dr. Charles T. Jackson, suggested to him the use of sulphuric ether, but be this as it may, William Morton performed all of the experiments and made the final convincing test. He first rendered dogs unconscious with ether, and soon after this he attempted a bold experiment. He shut himself in his room, saturated his handkerchief with ether, and soon became unconscious. When he first regained consciousness he was unable to move, and thought that he was dying, and he feared that his discovery would be lost to the world. But he soon regained his muscular control, and after that anxiously awaited the chance to administer this drug in practice. This opportunity came the same night. Eben Frost, a patient called with a very sore tooth, and when Morton



2. MORTON'S LECTURE CARDS—HARVARD MEDICAL SCHOOL.

told him that he could extract the tooth without pain Frost consented to the use of ether. Morton's experiment was entirely successful, and the painless extraction of the tooth followed.

The final step in the introduction of this great discovery to the world consisted in its use in the surgical amphitheater of the Massachusetts General Hospital on October 16, 1846, when Dr. John Collins Warren, one of the most prominent of American surgeons, allowed Morton to render unconscious one of his patients. The amphitheater was crowded with students, and Warren was surrounded by the most prominent surgeons of Boston. After some delay Dr. Warren was about to start the operation, when Morton entered. The surgeon turned abruptly and remarked, "Well, sir, your patient is ready." Morton made no reply, but placed his glass flask over the patient's face, and in a few minutes he remarked, "Dr. Warren, your patient is ready." The surgeon then removed a vascular tumor from the neck of Gilbert Abbott without pain or return of consciousness until after the operation was completed. Dr. Warren turned to the class and said, "Gentlemen, this is no humbug," and Bigelow remarked, "I have seen something today that will go around the world."

This discovery did go around the world bearing the tidings of freedom from pain and suffering to millions of people. Its beneficent results are before each one of you every day, but we should all bear in mind that the relief of pain is not its only advantage. In rendering patients unconscious, and therefore quiet, it enables surgeons to attempt very delicate operations around arteries and nerves. They can also prolong operations and attempt hundreds of surgical feats which were hardly dreamed of before the days of Morton. Shock is also avoided and the exacting details of aseptic surgery can be thoroughly carried out. Thus pain has been conquered and life lengthened by Morton's immortal discovery.

It would be most satisfactory, in closing the consideration of this subject, to speak of the honor, praise, and gratitude which were paid to William Morton, but history has written otherwise. His life was henceforth clouded by disputes and controversies with Wells, Jackson, and others concerning priority of discovery. Attempts were made to interest Congress in his behalf, and several bills were proposed to reward the

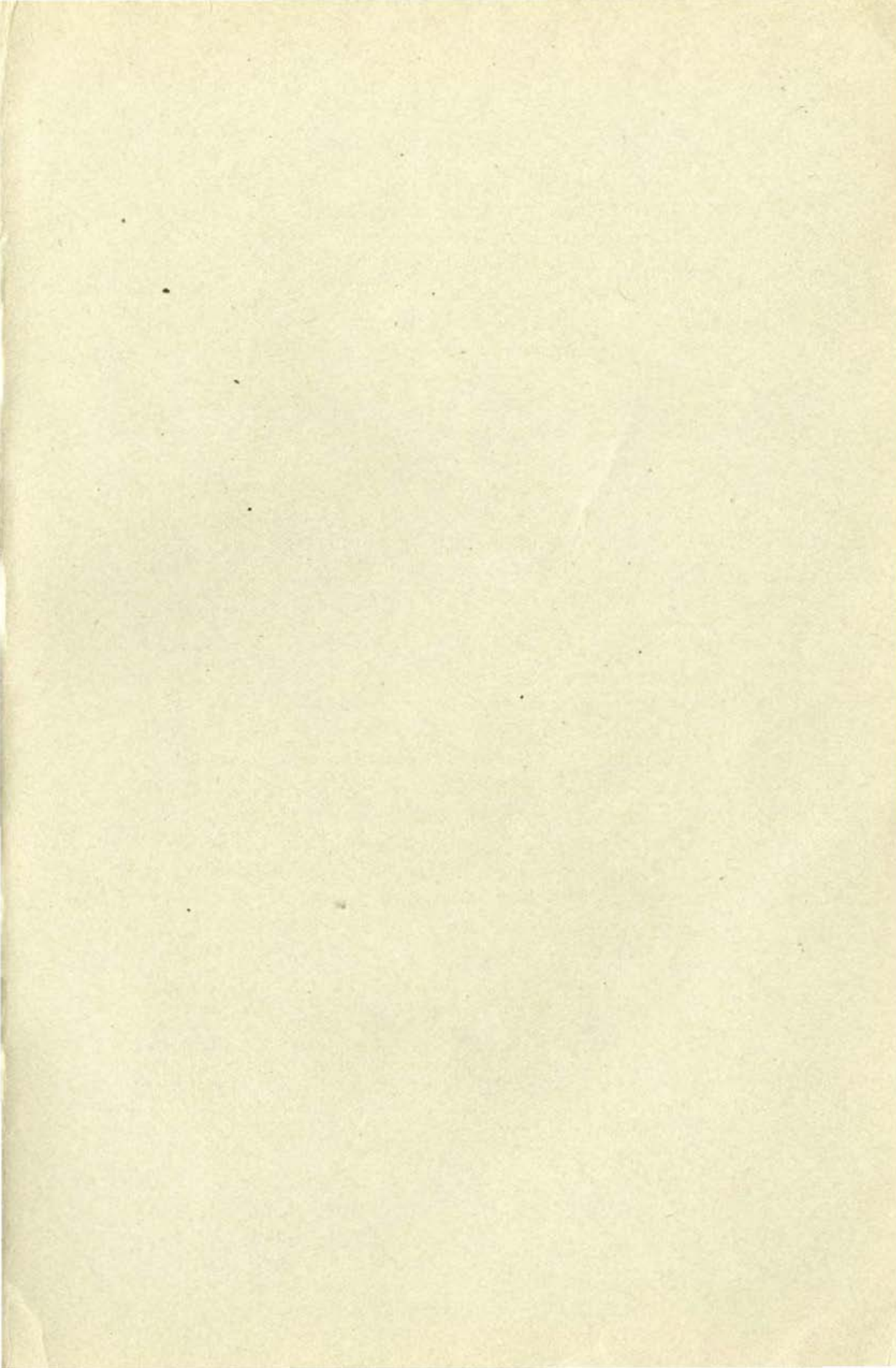
discoverer of anesthesia. The President, however, refused to sign the final bill, and thereby placed upon our national record a blot which I hope a spirit of mercy has long since wiped out. The trustees of the Massachusetts General Hospital presented him with a silver box containing \$1000, and I take especial pride in stating that in 1849¹ his Alma Mater, now known as the College of Physicians and Surgeons of Baltimore, presented him with an honorary diploma in medicine. On it you will find the names of Monkur, McCook, Roberts, Bond, Lee, Morris, Jenkins, and Mackenzie. Many of these names are still prominent in a younger generation of medicine in Baltimore. I hope to be pardoned for adding that my grandfather's name, William Hughes Stokes, is also on this diploma, but I rejoice in the fact that he was able to aid in granting ever so small an honor to a man who was certainly not justly honored in his day.

Morton died poor and disheartened in 1868 at the age of 48, but his name will live forever. And as long as men and women suffer they will always bear a sense of deepest gratitude to him who "made of pain a dream."

And if before closing we can briefly review these four great discoveries, we may, I think, take just pride in the fact that two of them were made by Americans, and two by Englishmen. Maryland may also feel proud of having taken a part in the education of Reed and Morton, and Virginia and Massachusetts must share with us this honor. But, aside from local pride, the study of great men and great deeds of medical history should have a profound effect upon the character of any medical man or student who reads such history aright. Then diligently search these honorable records, young men, in the hope that it may be said of you as was said of Edward Jenner, "And he stood between the living and the dead, and the plague was stayed."

¹ In 1849, three years after the introduction of ether, the honorary degree of M. D. was conferred upon him by Washington University, Baltimore.

From "A Narrative of Events Connected with the Introduction of Sulphuric Ether into Surgical Use, by Richard Manning Hodges, A. M., M. D., formerly a surgeon of the Massachusetts General Hospital, Boston; Little, Brown & Co., Publishers, 1891."



Chicago, May 13/14 20.

President Harry P. Judson.

University of Chicago.

Esteemed Sir;

I understand that the
Presidents of Universities are about to
consider for eligibility to the Hall of Fame
the name of Rabbi Isaac M. Wise - and I
beg the privilege of commending for your
favorable consideration this name of my
beloved and revered teacher who, as
founder of the Hebrew Union College, the
Central Conference of American Rabbis, and
the Union of American Hebrew Congregations,
as editor of the American Israelite for

almost half a century, as author of many
learned books, as eminent preacher,
exponent and protagonist of liberal
thought, as a real democrat & a true
lover of American institutions, has won
distinction in the annals of our
country.

Assured that you will derive
much pleasure from a closer study
of this man who was regarded as an
outstanding character, both within and
without the confines of his denomination,
I have the honor to remain,

Yours Most Respectfully,

Joseph Stolz.

May 15, 1920

Dear Mr. Stolz:

Your favor of the 13th instant is received
and of course will receive due consideration.

Very truly yours,

Mr. Joseph Stolz,
2545 Barry Ave.
Chicago.

May 15, 1920

Dear Mr. Stein:

Your favor of the 13th instant is received
and of course will receive due consideration.
Very truly yours,

Mr. Joseph Stein,
2343 Barry Ave.,
Chicago.

7

STEVENS INSTITUTE OF TECHNOLOGY
CASTLE POINT, HOBOKEN
NEW JERSEY

ALEX. C. HUMPHREYS, M.E., E.D., Sc.D., LL.D.
PRESIDENT

May 21, 1920

To Electors of Hall of Fame (for Philanthropists)

There has been placed in nomination as Philanthropist the name of Edwin A. Stevens. (b. 1795; d. 1868).

I have no desire or intention of transgressing any rules which may govern your Board in considering the names placed before you. I recognize the difficulty necessarily to be experienced in connection with your investigation, and particularly in the case of Edwin A. Stevens the record of whose life and activities is scattered through many publications including encyclopedias, records of merchant marine and naval engineering and railroad engineering, and, in general, in widely differentiated periodicals. The principal references have been given in the formal statement already filed in the Executive Office of the Hall of Fame.

The difficulties of the investigation in this case are enhanced by the fact that Edwin A. Stevens, although eminent as a philanthropist, was a member of a family eminent as pioneer inventors and engineers, and the record of his philanthropy is apt to be merged and lost sight of in the records having to do with these remarkable pioneer activities.

It was the success of Edwin A. Stevens as engineer and administrator of railroads and other properties which enabled him to establish and endow Stevens Institute of Technology, to bequeath one million dollars to complete the first, and for years the largest, armored vessel designed for the protection of the country's harbors - a work begun by other members of his family.

Through his financial successes, built upon his Engineering activities, he was also able to build and present to the United States Government the armored gunboat "Naugatuck" at the time an emergency was threatened by the advent of the ironclad "Merrimac" of the Southern Confederacy. It is particularly pertinent that large current family expenditures (including his own) were spread over a period of more than half a century (1792-1856) on pioneer engineering development for the public good.

I am, for the reasons given, enclosing herewith a brief digest of the somewhat voluminous material contained in the references already cited.

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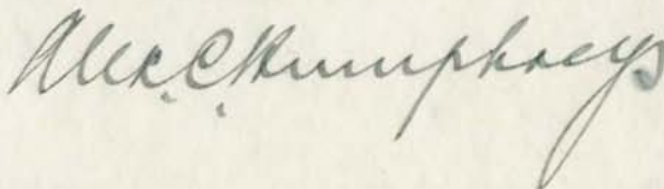
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The one place in which most of the reference material is fully brought together is the Morton Memorial Volume, published by the Alumni of Stevens Institute of Technology in 1905. This book is now out of print but is to be found in the libraries listed below:

New York Public Library	Bureau of Education, Wash., D.C.
Chicago Public Library	Cornell University Library
Pittsburg Carnegie Library	Iowa State Library
Cincinnati Public Library	Stevens Institute Library
Los Angeles Public Library	University of Michigan Library
Boston Public Library	University of Wisconsin Library
Providence Public Library	Yale University Library
Rochester, N.Y., Reynold's Library	Engineering Societies Library, N.Y.
Altoona Mechanics Library	

From my study of the remarkable career of the Stevens family since 1877 when I entered Stevens as a student, I feel I am justified in placing these facts before you in the hope that you will find Edwin A. Stevens worthy of the distinction of "most justly famous" and of a place on the final ballot.

Respectfully,



President

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Respectfully,

Wm. B. Humphreys

President

Digest of Record of
EDWIN AUGUSTUS STEVENS

Presented to the Actual or Former University or
College Presidents of the Electorate of the New
York University Hall of Fame.

Edwin Augustus Stevens, Son of John and Rachel Stevens;
b. Hoboken, N.J., 1795; d. Paris, France, 1868.

At 25 years of age was trustee of Stevens estate, Hoboken, N.J.

At 35 years was treasurer and manager Camden and Amboy (now part of
Pennsylvania) Railroad. For the 35 years under his management this pioneer
railroad appreciated in value and never passed a dividend.

Edwin A. Stevens, business manager and his brother Robert L. Stevens
engineer, constructed a railroad between New York and Philadelphia, had it
running and carrying passengers in two years, (1830-1832) "a feat which at
that time.....was a greater performance than if any man were now to under-
take to build a road from New York to San Francisco in two years. The
world never saw a greater triumph than that railroad".-Abram S. Hewitt.

"One of the most prominent railroad organizers in the United States"-
New International Encyclopedia.

Invented Stevens plough, long made and sold in large quantities, and
which brought him in close touch with the agricultural interest of the
country.

Designed, patented, and operated a closed fire-room for forced draft
in steamboat "Rainbow", 1842; introduced in U.S.S. "Mississippi" in 1845.

At an anxious period when hostilities with England were threatened
(1841) he conducted, at own expense, at Bordentown, N.J., tests on lami-
nated iron plates for war vessels for resistance of shots from various guns
of that day, finding that 4 1/2 inches of iron would be sufficient.
Eighteen years later English and French ironclads adopted this exact thick-
ness.

Bequeathed a million dollars for completing Stevens' Battery.

"Although the Stevens Battery was never launched, and of course, there-
fore, never in actual conflict, yet for the twenty years that intervened be-
tween 1840 and 1860 she was potentially effective for the protecting of New
York and its Harbor from any attack which might have been made by a foreign
fleet".- T.C. Martin, E.E., in "Cosmopolitan Magazine", May 1898.

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Edwin A. Stevens--Page 2.

During the Civil War built at own expense the "Naugatuck" which was accepted by the U.S. Government and which attacked the "Merrimac".

At time of his death, bequeathed a large city block of land in the best residential section of Hoboken, \$150,000 as a building fund, and \$500,000 as an endowment fund for "an institution of learning", which was promptly erected and in which the first college course in "Mechanical Engineering" in America was given.

"No one who cannot recall, as I can, the time when there were no railways.....no ocean steamers.....no armored navies.....and did not see it, can realize what the Stevens' family has done for America".-Abram S. Hewitt.

"At the beginning of the Civil War when paper money was a legal tender, Mr. Edwin A. Stevens.....insisted that the Camden and Amboy Railroad, which he controlled, should continue to pay the obligations which had been contracted before the war, principal and interest, in gold when he might have availed himself, as many others did, of the privilege of paying in depreciated paper money".-Abram S. Hewitt.

"That a memorial should be erected to the work of John, Robert L. and Edwin A. Stevens is more than fitting".-Rear-Admiral George W. Melville, U.S.N.

President Charles King of Columbia College said of John Stevens, father of Robert L. and Edwin A.: "Born to affluence his whole life was devoted to experiments, at his own cost, for the common good"; and the same may be said in substance of his sons Robert L. and Edwin A. As the last surviving member of this distinguished family group of great American engineers, Edwin A. Stevens honored himself, his family and his ancestors in his additional and final philanthropic deeds in founding Stevens Institute of Technology and in leaving \$1,000,000 to be expended in completing an armored vessel for the defense of his country.

"Might it not be suggested that here were noble deeds and a lofty intent still awaiting proper recognition"-From article by T.C.Martin, E.E., in "Cosmopolitan Magazine", May 1898.

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40 Gramercy Park,
New York City.
April 24, 1920.

Mrs. William Vanamee,
Acting Director and Secretary of Hall of Fame,
New York University,
New York City.

Dear Madam:

We note in your Hall of Fame no niche commemorative of any distinguished aesthetician, thus we would bring to you and your associate body the name and mighty services of a many sided aesthetic scholar, an inspired laborer who signally accomplished in this hitherto neglected field of vital, human education.

George Fisk Comfort, L. H. D., L. L. D., America's pioneer Fine Arts educator, the chiefest results of whose labors were practically secured about a half a century ago, both in museum and collegiate foundings, to each of which he gave his exceptional creative powers, his great organizing genius, the wealth of his scholarship, and his most consecrated purposes.

Dr. Comfort, while yet a university student, perceived the Fine Arts to be a crying need of this country and reasoned that the feeding of beauty alone could offset the heavy trend of its commercial drudgery. He thereupon visioned it as a reality and was correspondingly inspired to make its development the chosen work of his life; hence he supplemented his collegiate education at the Wesleyan University by many self-sacrificing years of post graduate study abroad, and at the great art centres of Europe, in fullest preparation for his contemplated work here, and became veritably America's Fine Arts missionary thereafter. And, truly has it been said of him, that "he was as Peter, the Hermit, leading the Crusades through the wilderness of American Art."

Immediately on returning he founded the Philological Society of America, for he deemed linguistic acquirements to be an important asset in the historic study of the Fine Arts.

And, about the same time, he established the first American Chair of Aesthetics at Alleghany College, Meadville, Penn., himself the first occupant of it.

Next, Prof. Comfort labored for the Fine Arts Museum Movement, and was the chief organizing founder of the New York Metropolitan Museum.

Prof. Comfort gave the first public main address in New York City before a body of influential citizens at the Union League Club, in the far away sixties, appealing for the establishment of such a museum; inspected and passed upon many collections relative to the loan exhibits, and with much thought, drew up its charter, valiently fought it through at Albany, and secured it.

He next effectively organized it, and which organization policy was later copied by the Boston Museum, and that institution in its records referred to its organization as "after the Comfort plan."

Dr. Comfort furthermore, delivered the Metropolitan's fortieth year anniversary address of its founding, by invitation of the Corporation and Trustees, only a few nights prior to his very sudden death. Dr. Comfort ever and ardently advocated public art museums as common needs to the edification of the public, and the cultivation of high aesthetic taste. He, also, at this time keenly sensed the defective training of the practicing artists of that period and the general unscholarly equipment of art teachers. All men art workers at this time also were reflectively dubbed "feminines."

He then gave the supremest effort of his life to the creation of a scholastic College of Fine Arts, which college he successfully founded in 1873, in connection with Syracuse University, and he correlated it in rank with all the other scholarly departments of the University. Such character of college was without precedent, in America - the very first of its kind! But by Herculean struggle, as against apathy and opposition alike, he brought it into being, establishing its full four year course in music, architecture, painting, and all the

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formative arts therewith. Dean Comfort, also, in connection with this college, brought into existence all of America's first Fine Arts degrees. He devised, authorized and inaugurated them in connection with its scholastic courses, and was the first educator in this country to bestow them.

Dr. Comfort was the active Dean of this first American Fine Arts College for over twenty years, and after retiring and in full years, he founded the Syracuse Museum of Fine Arts, sustaining it at first, by his ability to command for it a high quality of loan exhibits. He established it in grade of rank second class cities, and was its director at the time of his death in his 77th year.

Dr. Comfort lived to see his college copied in whole or in part by most of the American Fine Art departments that followed in its wake. And out from it, went a host of cultured graduates.

Dean Comfort gave to it the services of his many sided scholarship in lectures upon historic and Christian art, the languages, archaeology, and the history and criticism of the Fine Arts, added to the ever arduous administrative duties of the Deanship.

And with the presentation of his ever lofty ideals, he gave also the ministering beauty of his fine, sublimated soul. It was with him verily as a religious inspiration the sure grounding of American Fine Arts, as he ever ardently and heroically "blazed the way!"

Dr. Comfort publicly and tirelessly lectured for long years also, in advocacy and defense of the institutions that he founded, both of which he securely established upon high cultural and scholastic bases. None can doubt the woeful dearth of the Fine Arts in America a half a century and more ago, and its contrasting activities of today, and which unquestioningly has been the definite result of that one man's pioneer, soulful upheaval of the depths, his powerful projectile of art awakening, impelled to this later full infection!

He consecrated to it his wide visioning, his brave initiative, his tireless persistency, the life long service of his supremest and most extraordinary powers.

Every phase of art interest is now rife here in America - art leagues, art clubs, art studios, art galleries, art publications, and art organizations abound together with high rank teachers and accomplished practicing artists - designers, composers, architects, and musicians, painters, sculptors, etchers and art embellishers of every kind, aesthetic taste and art industries are well nigh universal. And this united art force owes that great pioneer most reverent memory for the cause to which he gave his all - a one man's prodigious accomplishment, appealing for and fostering the advance of this great department of human activity, to his dying hour. Dr. Comfort was born at Berkshire, New York, September 20th, 1833, and died in his 77th year. He was an exalted Christian character, devout and ever unselfish. He lived along the straightened edge of circumstances, but died rich in service to a single cause, a divinely inspired laborer, and a signal achiever - America's Fine Arts institution founder both museum and collegiate.

And we fervidly, therefore, commend to you and your honored associates, the name and extraordinary achievements of Dr. George Fisk Comfort, whose name and Fine Art's history we herewith place in nomination for honored recognition in your Hall of Fame.

Very sincerely and respectfully yours,

(Signed) C. Pauline Jennings

A former student of this first American
College of Fine Arts.

(See letter dated April 29, 1920, herewith - also.)

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Mrs. William Vanamee,
Secretary and Acting Director, of Hall of Fame,
New York University,
New York City.

My dear Madam:

We observe in your Hall of Fame a signal omission, one field of vital human activity unrepresented, that of American Fine Arts Education.

No niche there, no panel commemorative of any great laborer in that very important department of human service. Yet nothing is more patent than that such an educational realm has come into active being within the past half century. Prior to that, there existed no American Fine Arts Institution of high rank, or any general Fine Arts culture. In fact an almost absolute dearth of aesthetic interest, a half century or more ago, was the deplorable fact, whereas today its multiple interests and activities abound.

And how came this mighty change! What vital force wrought it, one naturally asks, and as ever is it answered:

One exceptionally inspired soul visioned and through consecrated purpose, actualized it, thus giving national impetus to its life in the establishment of a scholastic College of Fine Arts, together with high rank cultural museums, both of which were the idealized, the essential creations of one distinguished aesthetician.

One man in that sixty year ago period sensed for the people the needful ministering power of beauty, as against the stressful trend of financial drudgery, which conviction became to him as a religious inspiration, and which later materialized in the aforesaid institutions. This great worker, after acquiring fullest scholastic equipment here, and at the great art centres of Europe, consecrated his all of life to the chosen work of grounding and fostering the American Fine Arts.

He founded the first Collegiate Chair of Aesthetics in this country and for a time himself occupied it. He next gave his Herculean endeavors to the founding of America's first great museum, the Metropolitan Museum of New York City. He gave here the first great appeal in its behalf, publicly urging and outlining its establishment, and with much thought drew up its charter, and after a valient contest at Albany, secured it. He next organized its working policy, which was later copied by the Boston Museum and which they referred to in their records as "after the Comfort plan." He furthermore delivered its fortieth year anniversary address only a few nights before his very sudden death.

He had rejoiced in the triumph of its founding and ever advocated the extension of Museum creations to the edification and cultural needs of the people.

After his strenuous founding services to the Museum, this man gave his next supremest effort to the founding of the First Fine Arts College for America, which he established in connection with Syracuse University, for the creation or development of which he had no precedent in this country to guide him, but as one inspired, he heroically brought it into being, and resolutely developed it, heading it for the first twenty years of its existence.

He organized its full four year courses in music, architecture, painting, and all the formative and other Fine Arts, on a high scholastic basis, co-relating them in rank with the other collegiate departments of the University. And, another very signal accomplishment was this great scholar's initiative of projecting with these high rank courses all the first American Fine Arts degrees. He devised, authorized, and inaugurated them and was the first American educator to bestow them. He bequeathed to this College his versatile scholarship in lectures upon Christian and historic art, the languages, archaeology and history and criticism of the Fine Arts; added to the arduous duties of the administrative deanship,

40 Gramercy Park,
New York City.
April 29, 1930.

Mrs. William Vanamee,
Secretary and Acting Director, of Hall of Fame,
New York University,
New York City.

My dear Madam:

We observe in your Hall of Fame a signal omission, one field of vital human activity unrepresented, that of American Fine Arts Education.

No niche there, no panel commemorative of any great laborer in that very important department of human service. Yet nothing is more patent than that such an educational realm has come into active being within the past half century. Prior to that, there existed no American Fine Arts Institution of high rank, or any general Fine Arts culture. In fact an almost absolute dearth of aesthetic interest, a half century or more ago, was the deplorable fact, whereas today the multiple interests and activities abound.

And how came this mighty change? What vital force wrought it, one naturally asks, and as ever is it answered:

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One man in that sixty year ago period sensed for the people the needful ministering power of beauty, as against the stressful trend of financial drudgery, which conviction became to him as a religious inspiration, and which later materialized in the aforesaid institutions. This great worker, after acquiring fullest scholastic equipment here, and at the great art centers of Europe, consecrated his all of life to the chosen work of grounding and fostering the American Fine Arts.

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He organized its full four year courses in music, architecture, painting, and all the formative and other Fine Arts, on a high scholastic basis, co-ordinating them in rank with the other collegiate departments of the University. And, moreover, other very signal accomplishment was this great scholar's initiative of projecting with these high rank courses all the first American Fine Arts degrees. He devised, authorized, and inaugurated them and was the first American educator to bestow them. He bestowed to this College his versatile scholarship in lectures upon Christian and historic art, the languages, archaeology and history and criticism of the Fine Arts; added to the arduous duties of the administrative leadership,

and many were its cultured graduates, practicing artists and high rank art teachers. This dean lived to see his college copied in whole or in part by most of the succeeding collegiate Fine Art departments of the country.

He also founded in full years the Syracuse Museum of Fine Arts, and was its director at the time of his death, in his 77th year.

This great worker, in addition to his exacting and positioned tasks, wrote and lectured publicly and ardently in the further dissemination of the Fine Arts, and in advocacy of the institutions he had created and their needed influence.

This inspired aesthetic pioneer and indefatigable promotor of the Fine Arts, this heroic founder of its institutions, museum and collegiate, lived an almost single handed combat in the initial years, as against the widespread apathy and opposition that beset these valient and initiative endeavor for the grounding of scholarly American Fine Arts. His was a life devotion of service, and signal have been its accomplishments, and to this illustrious aesthetician, America owes much of reverent memory, for multitudes have benefitted through the institutions of his creation, and their overwhelming infection has since disseminated through every form of American artistic activity.

This devoutly consecrated and unselfish laborer, who died in his 77th year, to his dying hour gave of his very all to the cause of American aestheticism, which he so progressively advanced, and to the institutions of his creation for all of which he so mightily achieved.

This great souled scholar and Fine Arts missionary lived, as a result of his consecrated work, a life of persistent sacrifice, but rich in service to a cause - The Cause of American Fine Arts.

We, therefore, earnestly and fervidly nominate the name of Dr. George Fisk Comfort as the one true claimant for the unrepresented panel and for just memorialization in your Hall of Fame.

Sincerely and respectfully yours,

(Signed) C. Pauline Jennings,

(This accompanies the nominating letter dated April 24, 1920.)

and many were its cultured graduates, practicing artists and high rank art teachers. This has lived in his college copied in whole or in part by most of the succeeding collegiate Fine Art departments of the country.

He also founded in full years the Syracuse Museum of Fine Arts, and was its director at the time of his death, in his 77th year.

This great worker, in addition to his exacting and positioned tasks, wrote and lectured publicly and ardently in the further dissemination of the Fine Arts, and in advocacy of the institutions he had created and their needed improvement.

This inspired aesthetic pioneer and indefatigable promoter of the Fine Arts, this heroic founder of its institutions, museum and college, lived an almost single handed combat in the initial years, as against the widespread apathy and opposition that beset those valiant and initiative endeavor for the grounding of scholarly American Fine Arts. His was a life devoted to service, and signal have been its accomplishments, and to this illustrious aesthetician, America owes much of her present memory, for multitudes have benefited through the institutions of his creation, and their overwhelming infection has since disseminated through every form of modern artistic activity.

This devotedly consecrated and unswerving laborer, who died in his 77th year, to his dying hour gave of his very all to the cause of American aestheticism, which he so progressively advanced, and to the institutions of his creation for all of which he so mightily achieved.

This great soulful scholar and Fine Arts missionary lived, as a result of his consecrated work, a life of persistent sacrifice, but rich in service to a cause - The Cause of American Fine Arts.

We, therefore, earnestly and fervently nominate the name of Dr. George Fisk Combs as the one true claimant for the unrepresented panel and for just memorialization in your Hall of Fame.

Sincerely and respectfully yours,

(Signed) C. Pauline Jennings.

(This accompanies the nominating letter dated April 24, 1920.)

7

THE HALL OF FAME

REPORT

Upon the Fourth Quinquennial Election

presented to the

ONE HUNDRED ELECTORS

by the

SENATE OF NEW YORK UNIVERSITY

OCTOBER, NINETEEN HUNDRED AND FIFTEEN

NOTE TO ELECTORS May 1920.

In order that you may have before you the record of votes in previous elections this Report of 1915 is sent to you. Please notice that no name is included in the hold-over nominations unless it received five or more votes in 1910 or 1915. For Rules for Election, Constitution and List of Electors you are referred to the revised edition of 1920.

New York University Senate

NEW YORK, November 10, 1915.

Elector of the Hall of Fame.

The Senate of New York University respectfully presents to you this report of the official canvass of ballots received from the Electors of the Hall of Fame in 1915.

Ballots were received from ninety-seven electors, as follows: University or College Presidents, 23; Professors of History, 15; Scientists, 9; Authors and Editors, 16; Men of Affairs and unclassified, 8; High Public Officials, 13; Justices, National or State, 13. See Roll upon pages 12-13.

Forty-nine votes were required to elect each name.

The result of the canvass showed the following names to have been duly chosen:

Famous American Men

ALEXANDER HAMILTON, Statesman,	. . .	Seventy (70)
MARK HOPKINS, Educator,	. . .	Sixty-nine (69)
FRANCIS PARKMAN, Author,	. . .	Sixty-eight (68)
LOUIS AGASSIZ, Scientist,	. . .	Sixty-four (64)
ELIAS HOWE, Inventor,	. . .	Sixty-one (61)
JOSEPH HENRY, Scientist,	. . .	Fifty-six (56)
RUFUS CHOATE, Jurist,	. . .	Fifty-two (52)
DANIEL BOONE, Pioneer,	. . .	Fifty-two (52)

NOTE. Alexander Hamilton and Louis Agassiz were elected in 1905 to the Hall of Fame as foreign-born Americans. In 1914 the Constitution was amended by striking out every discrimination between citizens of native birth and citizens of foreign birth. Fairness demanded that the names of the foreign-born already chosen be again submitted for election in competition with nominations of native-born citizens. Hamilton and Agassiz were approved, the former by seventy, the latter by sixty-four Electors. John Paul Jones and Roger Williams failed to receive a majority. They remain in nomination for the Fifth Election, in the year 1920.

Famous American Women

CHARLOTTE CUSHMAN, Artist,	. . .	Fifty-three (53)
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Respectfully submitted,

HENRY MITCHELL MACCRACKEN,

President of the New York University Senate when
Hall of Fame Business is under Consideration.

DANIEL W. HERING, Dean of the Graduate School Faculty;

CHARLES H. SNOW, Dean of the School of Applied Science Faculty;

Committee upon the Fourth Quinquennial Election.

RESULT OF THE FOURTH QUINQUENNIAL ELECTION OF THE HALL OF FAME, MAY-SEPT., 1915

Each elector was asked to prepare his ballot as follows: (1) Mark each name chosen by underscoring the same and by placing his initials opposite to the name. (2) Mark thus as few or as many names as he may choose, not to exceed (for 1915) twenty-three American men, *choosing one at least from each of eight classes, being a majority of the fifteen classes of nominations.* (3) Mark not to exceed (for 1915) eleven famous American women.

These directions are in accord with the Constitution and the Rules as amended.

The column headed 1915 gives this year's vote. Out of ninety-seven Electors voting forty-nine constitute a majority sufficient to elect.

I. AUTHORS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

Names Already Elected

With Year of Election and Vote

	1900	1905	1910	1915		1900	1905	1910
George William Curtis.....	..	8	26	6	1. RALPH WALDO EMERSON.....	87	..	..
William Lloyd Garrison.....	19	20	35	14	2. HENRY WADSWORTH LONGFELLOW	85	..	..
Horace Greeley.....	45	35	30	14	3. WASHINGTON IRVING.....	83	..	..
Francis Scott Key.....	2	6	5	5	4. NATHANIEL HAWTHORNE.....	73	..	..
Francis Parkman. <i>M.J.F.</i>.....	..	47	45	68	5. JAMES RUSSELL LOWELL.....	..	59	..
Wendell Phillips.....	19	17	20	5	6. JOHN GREENLEAF WHITTIER....	..	53	..
William Hickling Prescott.....	33	27	21	16	7. GEORGE BANCROFT.....	..	40	53
Noah Webster.....	36	34	38	30	8. WILLIAM CULLEN BRYANT.....	49	43	59
William Dwight Whitney.....	..	7	9	3	9. JAMES FENIMORE COOPER.....	30	43	62
Philip Schaff.....	..	..	..	1	10. OLIVER WENDELL HOLMES.....	..	49	69
Edward Eggleston.....	..	..	..	1	11. JOHN LOTHROP MOTLEY.....	41	47	51
Lewis Wallace.....	..	..	..	3	12. EDGAR ALLAN POE.....	38	42	69
John Fiske.....	..	..	..	8				
Francis Bret Harte.....	..	..	..	6				
Charles Dudley Warner.....	..	..	..	3				
Walter Whitman.....	..	..	..	10				
Justin Winsor.....	..	..	..	3				

II. EDUCATORS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Thomas H. Gallaudet.....	14	8	5	5
Mark Hopkins. <i>M. J. F.</i>	48	40	45	69
Samuel G. Howe.....	9	6	10	9
William Holmes McGuffey.....	5	..	2	3
Lindley Murray.....	7	..	..	2
Eliphalet Nott.....	9	2	4	2
Francis Wayland.....	24	17	19	13
Theodore D. Woolsey.....	21	11	10	3
Henry Tappan.....	7	..	..	3
John Witherspoon.....	..	3	6	4
Henry Barnard.....	..	..	..	2
Cyrus Hamlin.....	..	..	..	2

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. HORACE MANN.....	67	..	..

III. PREACHERS AND THEOLOGIANs

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Lyman Beecher.....	4	8	7	4
Horace Bushnell. <i>M. J. F.</i>	32	23	19	42
Peter Cartwright.....	8	2	4	0
Timothy Dwight.....	11	10	4	2
Charles Hodge.....	5	2	2	1
John McClintock.....	1	2	1	0
Cotton Mather.....	18	8	11	2
Theodore Parker.....	21	11	10	9
Matthew Simpson.....	11	29	20	10
Francis Asbury.....	..	8	7	2
William Brewster.....	..	5	5	1
Alexander Campbell.....	..	4	1	1
Roger Williams.....	..	..	..	26
Dwight L. Moody.....	..	..	..	8

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. JONATHAN EDWARDS.....	82	..	..
2. HENRY WARD BEECHER.....	64	..	..
3. WILLIAM ELLERY CHANNING....	58	..	..
4. PHILLIPS BROOKS.....	..	49	60

IV. PHILANTHROPISTS; REFORMERS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
None				

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. PETER COOPER.....	69	..	..
2. GEORGE PEABODY.....	74	..	..

V. SCIENTISTS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Spencer F. Baird.....	8	5	7	2
Nathaniel Bowditch.....	10	8	11	4
Joseph Henry. <i>M.J.F.</i>	44	34	39	56
Matthew F. Maury.....	20	14	11	13
Benjamin Pierce.....	14	12	8	1
Benjamin Silliman.....	17	7	8	1
Benjamin Thompson. <i>M.J.F.</i> ...	19	20	26	31
John W. Draper.....	..	..	..	1
Louis Agassiz. <i>M.J.F.</i>.....	..	..	..	64
Henry A. Rowland.....	..	..	..	3

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. JOHN JAMES AUDUBON.....	67	..	..
2. ASA GRAY.....	51	..	..

VI. ENGINEERS; ARCHITECTS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
James B. Eads.....	41	18	16	28
Alexander Lyman Holley.....	8	1	15	4
Henry H. Richardson.....	32	20	15	11
John A. Roebling.....	..	10	6	4
Andrew A. Humphreys.....	..	..	..	2

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
None			

VII. PHYSICIANS; SURGEONS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Ephraim McDowell.....	5	1	5	2
William T. G. Morton.....	6	29	36	37
Valentine Mott.....	18	7	2	2
Benjamin Rush.....	42	24	21	13
James Marion Sims.....	28	20	14	8
Crawford W. Long.....	..	..	..	11

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
None			

VIII. INVENTORS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Alvan Clark.....	12	5	3	0
George Henry Corliss.....	..	7	6	3
Charles Goodyear.....	13	11	7	2
Richard M. Hoe.....	19	16	18	17
Elias Howe. <i>M.J.F.</i>	47	29	28	61
Cyrus Hall McCormick.....	25	20	16	28
Robert McCormick.....	..	..	7	3
John Ericksson.....	..	..	..	12

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. ROBERT FULTON.....	86	..	..
2. SAMUEL F. B. MORSE.....	82	..	..
3. ELI WHITNEY.....	69	..	..

IX. MISSIONARIES AND EXPLORERS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915	
Daniel Boone. <i>M.J.F.</i>	35	36	42	52	None
David Brainerd.....	9	..	3	0	
David Crockett.....	8	..	4	1	
Manasseh Cutler.....	9	7	2	1	
Samuel Houston.....	16	10	6	2	
Elisha Kent Kane.....	22	5	7	3	
Adoniram Judson.....	36	13	15	29	
Meriwether Lewis.....	14	14	13	7	
Marcus Whitman.....	19	8	5	3	
John Eliot.....	..	..	..	7	
Jacques Marquette.....	..	..	..	8	
Titus Coan.....	..	..	..	1	
Guido F. Verbeck.....	..	..	..	1	
Cornelius Van Dyck.....	..	..	..	0	

Names Already Elected

With Year of Election and Vote

1900 1905 1910

X. SOLDIERS; SAILORS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
George Rogers Clark. <i>M.J.F.</i> ...	19	20	25	21
Stephen Decatur.....	23	18	21	7
John Charles Fremont.....	17	7	13	2
Nathaniel Greene. <i>M.J.F.</i>	30	34	25	37
Nathan Hale.....	5	12	20	7
Thomas J. Jackson. <i>M.J.F.</i>	23	24	18	24
Albert Sydney Johnston.....	12	9	5	0
George G. Meade.....	6	3	6	3
William Pepperell.....	..	..	17	6
Oliver Hazard Perry.....	26	13	20	9
David D. Porter.....	6	2	7	0
Philip Schuyler.....	4	2	6	0
Winfield Scott.....	16	6	11	2
Philip Henry Sheridan.....	23	18	33	24
Zachary Taylor.....	9	2	6	1
George Henry Thomas.....	24	19	18	10
John Paul Jones.....	..	..	..	26
John De Kalb.....	..	..	..	0
Miles Standish.....	..	..	..	1
Frederick W. A. Steuben.....	..	..	..	0
Peter Stuyvesant.....	..	..	..	0
Joseph E. Johnston.....	..	..	..	2
George B. McClellan.....	..	..	..	1
John Barry.....	..	..	..	1

Names Already Elected

With Year of Election and Vote

1900 1905 1910

1. DAVID GLASCOE FARRAGUT.....	79	..	..
2. ULYSSES SIMPSON GRANT.....	93	..	..
3. ROBERT E. LEE.....	68	..	..
4. WILLIAM TECUMSEH SHERMAN.	..	58	..

XI. LAWYERS; JUDGES

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Rufus Choate. <i>M.J.F.</i>	47	31	28	52
Oliver Ellsworth.....	10	15	13	3
Edward Livingston.....	14	9	12	4
Lemuel Shaw. <i>M.J.F.</i>	11	10	11	19
Roger B. Taney.....	17	13	13	6
Henry Wheaton.....	13	9	11	6
William M. Evarts.....	..	..	..	10
Theophilus Parsons.....	..	..	..	0
Charles O'Connor.....	..	..	..	0
Thos. McIntyre Cooley. <i>M.J.F.</i> ..	..	..	..	23
William Cranch.....	..	..	..	0
Austin Abbott.....	..	..	..	0
Samuel F. Miller.....	..	..	..	2

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. JAMES KENT.....	65	..	..
2. JOHN MARSHALL.....	91	..	..
3. JOSEPH STORY.....	64	..	..

XII. RULERS AND STATESMEN

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Charles Francis Adams.....	4	6	20	7
Samuel Adams. <i>M.J.F.</i>	33	26	41	37
Thomas H. Benton.....	16	12	15	1
James Gillespie Blaine.....	..	12	14	0
John C. Calhoun.....	49	46	42	22
Salmon Portland Chase.....	13	14	9	1
De Witt Clinton.....	8	14	15	2
Edward Everett.....	..	9	20	0
James Abram Garfield.....	7	11	13	0
John Hancock.....	12	13	31	4
Patrick Henry. <i>M.J.F.</i>	39	46	44	47
John Jay. <i>M.J.F.</i>	35	26	36	30
Robert R. Livingston.....	3	10	7	0
James Monroe.....	19	24	27	6
Charles C. Pinckney.....	4	2	4	0
William H. Seward.....	25	27	31	7
Roger Sherman.....	5	12	12	2
Edwin McMasters Stanton.....	6	13	9	1
Alexander H. Stephens.....	7	12	11	2
Charles Sumner.....	26	28	24	7
Alexander Hamilton. <i>M.J.F.</i> ..	..	..	..	70
James Wilson, of Pa.....	..	..	..	1
Albert Gallatin.....	..	..	..	9
Robert Morris.....	..	..	..	6
John Winthrop.....	..	..	..	2
William Bradford.....	..	..	..	5
John Sherman.....	..	..	..	2
William McKinley.....	..	..	..	4
John Hay.....	..	..	..	16
Jefferson Davis.....	..	..	..	4
James K. Polk.....	..	..	..	0
William P. Fessenden.....	..	..	..	1

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. JOHN ADAMS.....	62	..	..
2. JOHN QUINCY ADAMS.....	48	60	..
3. HENRY CLAY.....	74	..	..
4. BENJAMIN FRANKLIN.....	94	..	..
5. ANDREW JACKSON.....	48	46	53
6. THOMAS JEFFERSON.....	91	..	..
7. ABRAHAM LINCOLN.....	96	..	..
8. JAMES MADISON.....	49	56	..
9. GEORGE WASHINGTON.....	97	..	..
10. DANIEL WEBSTER.....	96	..	..

XIII. BUSINESS MEN

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
George William Childs.....	..	1	3	0
William W. Corcoran.....	..	2	1	1
James Harper.....	..	2	1	1
Johns Hopkins.....	..	4	4	8
Amos Lawrence.....	..	1	..	1
Leland Stanford.....	..	3	2	3
Judah Truro.....	..	1	1	1
Cornelius Vanderbilt.....	..	9	5	4
John Jacob Astor.....	..	2	3	4
Stephen Girard.....	..	3	6	8
Charles Lewis Tiffany.....	0
Ezra Cornell.....	1

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
None			

XIV. MUSICIANS, PAINTERS, SCULPTORS, ETC.

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Edwin Booth.....	..	..	30	38
Frederick Edwin Church.....	..	..	6	0
John Singleton Copley.....	33	25	28	27
Thomas Crawford.....	9	5	1	0
Edwin Forrest.....	..	6	3	2
William Morris Hunt.....	13	9	4	2
Lowell Mason.....	10	2	4	2
Hiram Powers.....	36	15	7	4
Frederick Law Olmsted.....	..	..	..	5
Joseph Jefferson.....	..	..	..	21
Theodore Thomas.....	..	..	..	15

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
I. GILBERT CHARLES STUART.....	52	..	..

XV. EMINENT MEN OUTSIDE THE ABOVE CLASSES

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
John Brown.....	17	7	16	9
Gerrit Smith.....	1	1	1	0

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
None			

NOMINATIONS IN 1915 OF WOMEN FOR PLACES IN THE HALL OF FAME

I. AUTHORS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Abigail Adams.....	..	25	18	13
Louisa May Alcott.....	..	37	38	44
Alice Cary.....	..	14	13	6
Phebe Cary.....	..	12	11	3
Sarah Margaret Fuller.....	..	23	31	28
Helen Hunt Jackson.....	3	34	31	25
Lydia H. Sigourney.....	1	12	8	0
Constance Fenimore Woolson...	3	7	6	1
Mercy Warren.....	..	..	..	1

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. HARRIET BEECHER STOWE.....	74

II. EDUCATORS AND MISSIONARIES

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Isabella Graham.....	..	3	..	0
Barbara Heck.....	..	3	3	0
Elizabeth A. Seton.....	..	3	2	3
Sarah Boardman Judson.....	..	7	5	6
Alice Freeman Palmer. <i>M.J.F.</i>	47
Melinda Rankin.....	0
Fidelia Fiske.....	0
Eliza Agnew.....	1

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. MARY LYON.....	20	59	..
2. EMMA WILLARD.....	..	50	..

IV. HOME OR SOCIAL WORKERS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

	1900	1905	1910	1915
Eleanor Dare.....	..	8	6	1
Dorothea Dix.....	..	37	29	28
Mary Dyer.....	..	6	6	2
Anna Hutchinson.....	..	20	6	6
Dorothy Payne Madison.....	..	16	23	13
Lucretia Mott.....	..	33	41	40
Eliza Lucas Pinckney.....	..	5	3	0
Catherine V. Schuyler.....	..	3	2	2
Lucy Stone Blackwell.....	..	10	7	9
Martha Washington.....	..	32	43	35
Mary Washington.....	..	19	23	9
Margaret Tyndall Winthrop....	..	13	1	0
Ann Pamela Cunningham.....	14

Names Already Elected

With Year of Election and Vote

	1900	1905	1910
1. FRANCES E. WILLARD.....	55

V. SCIENTISTS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

1900 1905 1910 1915

None

Names Already Elected

With Year of Election and Vote

1900 1905 1910

I. MARIA MITCHELL*..... 7 48 ..

*In the year 1905, of the 95 Electors, 9 excused themselves from voting upon the names of women, leaving 86 to act thereon, a majority being 44. Maria Mitchell received 4 more than a majority.

XIV. MUSICIANS, PAINTERS, SCULPTORS. ETC.

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

1900 1905 1910 1915

Charlotte S. Cushman. M.J.F.. .. 39 45 **53** None
Harriet Hosmer..... .. 5

Names Already Elected

With Year of Election and Vote

1900 1905 1910

XV. ALL OTHERS

Nominations for Election of 1915

With Votes Given Them in Three Past Elections

1900 1905 1910 1915

Sarah Bache..... .. 7 12 **1** None
Anne Bradstreet..... .. 9 3 **1**
Pocahontas Rolfe..... .. 17 25 **13**

Names Already Elected

With Year of Election and Vote

1900 1905 1910

No nominations of women for Class III or for the Classes VI-XIII have been received.

ELECTORS of the HALL OF FAME, 1915

Who have each taken part in the Fourth Quinquennial Election

University or College Presidents

James B. Angell, LL.D., <i>Ann Arbor, Mich.</i>	David Starr Jordan, M.D., Ph.D., LL.D., <i>Palo Alto, Cal.</i>
Guy P. Benton, D.D., LL.D., <i>University of Vermont, Burlington, Vt.</i>	Harry P. Judson, LL.D., <i>University, Chicago, Ill.</i>
William H. Crawford, D.D., <i>Allegheny College, Meadville, Pa.</i>	J. H. Kirkland, Ph.D., LL.D., <i>Vanderbilt University, Nashville, Tenn.</i>
Charles W. Dabney, LL.D., <i>University, Cincinnati, O.</i>	Abbott Lawrence Lowell, LL.D., <i>Harvard University, Cambridge, Mass.</i>
James R. Day, S.T.D., LL.D., <i>University, Syracuse, N. Y.</i>	Samuel B. McCormick, D.D., LL.D., <i>University, Pittsburgh, Pa.</i>
Clyde A. Duniway, Ph.D., <i>University of Wyoming, Laramie, Wyoming</i>	Cyrus Northrop, LL.D., <i>University of Minnesota, Minneapolis, Minn.</i>
W. H. P. Faunce, D.D., LL.D., <i>Brown University, Providence, R. I.</i>	Ira Remsen, Ph.D., LL.D., <i>Johns Hopkins University, Baltimore, Md.</i>
Arthur T. Hadley, LL.D., <i>Yale University, New Haven, Conn.</i>	James M. Taylor, D.D., LL.D., <i>Vassar, Poughkeepsie, N. Y.</i>
Charles C. Harrison, LL.D., <i>University of Pennsylvania, Philadelphia, Pa.</i>	Charles F. Thwing, D.D., LL.D., <i>Western Reserve University, Cleveland, O.</i>
Caroline Hazard, A.M., Litt.D., <i>Wellesley, Mass.</i>	Charles R. Van Hise, LL.D., <i>University of Wisconsin, Madison, Wis.</i>
John Grier Hibben, D.D., LL.D., <i>Princeton, New Jersey</i>	Mary E. Woolley, A.M., Litt.D., <i>Mt. Holyoke, South Hadley, Mass.</i>
William De Witt Hyde, D.D., LL.D., <i>Bowdoin College, Brunswick, Me.</i>	
Total	23

Professors of History ; Scientists

George B. Adams, Ph.D., L.H.D., <i>Yale University, New Haven, Conn.</i>	J. Franklin Jameson, Ph.D., <i>Carnegie Institution, Washington, D. C.</i>
Charles M. Andrews, Ph.D., <i>Johns Hopkins, Baltimore, Md.</i>	Andrew C. McLaughlin, A.M., <i>University of Chicago, Chicago, Ill.</i>
Frank W. Blackmar, A.M., Ph.D., <i>University of Kansas, Lawrence, Kans.</i>	John H. T. McPherson, Ph.D., <i>University of Georgia, Athens, Ga.</i>
Henry E. Bourne, L.H.D., <i>Western Reserve University, Cleveland, Ohio</i>	Anson D. Morse, A.M., LL.D., <i>Amherst, Massachusetts</i>
George L. Burr, LL.D., <i>Cornell University, Ithaca, N. Y.</i>	Lucy Maynard Salmon, A.M., <i>Vassar, Poughkeepsie, N. Y.</i>
Edward Channing, Ph.D., <i>Harvard University, Cambridge, Mass.</i>	Thomas J. Shahan, D.D., J.V.L., <i>Catholic University, Washington, D. C.</i>
Richard H. Dabney, A.M., Ph.D., <i>University of Virginia, Charlottesville, Va.</i>	William M. Sloane, L.H.D., LL.D., <i>Columbia University, New York City</i>
Fred M. Fling, Ph.D., <i>University of Nebraska, Lincoln, Neb.</i>	

Alexander Graham Bell, LL.D., <i>Washington City, D. C.</i>	George F. Swain, LL.D., <i>Harvard University, Cambridge, Mass.</i>
George W. Goethals, LL.D., <i>Panama Canal Office, New York City</i>	Charles D. Walcott, LL.D., <i>Smithsonian, Washington, D. C.</i>
Henry Fairfield Osborn, LL.D., <i>New York City</i>	William H. Welch, M.D., LL.D., <i>Johns Hopkins University, Baltimore, Md.</i>
Edward C. Pickering, LL.D., D.Sc., <i>Harvard University, Cambridge, Mass.</i>	Robert S. Woodward, Ph.D., LL.D., <i>Carnegie Institution, Washington, D. C.</i>
Rossiter W. Raymond, Ph.D., LL.D., <i>Brooklyn, New York City</i>	

Total 15+9=24

Authors and Editors; Men of Affairs and Unclassified

James M. Buckley, D.D., LL.D., <i>Morristown, N. J.</i>	John Bach McMaster, Ph.D., LL.D., 2109 De Lancey St., <i>Philadelphia</i>
John W. Burgess, Ph.D., LL.D., <i>New York City</i>	James Whitcomb Riley, LL.D., <i>Indianapolis, Ind.</i>
George W. Cable, L.H.D., <i>Northampton, Mass.</i>	James F. Rhodes, LL.D., 392 <i>Beacon St., Boston, Mass.</i>
Winston Churchill, <i>Windsor, Vt.</i>	Albert Shaw, Ph.D., LL.D., 30 <i>Irving Pl.,</i> <i>New York City</i>
Charles W. Eliot, LL.D., <i>Cambridge, Mass.</i>	Helen Ekin Starrett, <i>Chicago, Ill.</i>
Mary Hallock Foote, <i>Grass Valley, Cal.</i>	William J. Tucker, D.D., LL.D., <i>Hanover, N. H.</i>
Albert B. Hart, Ph.D., <i>Cambridge, Mass.</i>	Henry Watterson, LL.D., <i>Louisville, Ky.</i>
Robert Underwood Johnson, Ph.D., 327 <i>Lexington Ave.,</i> <i>New York City</i>	George Edward Woodberry, L.H.D., <i>Beverly, Mass.</i>

Robert S. Brookings, LL.D., <i>St. Louis, Mo.</i>	James J. Hill, LL.D., <i>St. Paul, Minn.</i>
Arthur J. Brown, D.D., LL.D., <i>New York City</i>	John R. Mott, LL.D., <i>Montclair, N. J.</i>
Elbert H. Gary, LL.D., 856 <i>Fifth Avenue,</i> <i>New York City</i>	Herbert Putnam, LL.D., <i>Library of Congress,</i> <i>Washington, D. C.</i>
Myron T. Herrick, LL.D., <i>Cleveland, Ohio</i>	John Wanamaker, <i>Philadelphia, Pa.</i>

Total 16+8=24

High Public Officials; Justices, National or State

Joseph H. Choate, LL.D., 8 <i>East 63d St., New York City</i>	Horace Porter, LL.D., 267 <i>Mad. Ave., New York City</i>
George F. Edmunds, LL.D., 841 <i>Orange Grove Ave.,</i> <i>Pasadena, Cal.</i>	Morris Sheppard, LL.M., <i>Texarkana, Texas</i>
Charles W. Fairbanks, LL.D., <i>Washington, D. C.</i>	Oscar S. Strauss, LL.D., 5 <i>W. 76th St., New York City</i>
John W. Foster, LL.D., 1323 <i>18th St., N. W.,</i> <i>Washington, D. C.</i>	William Howard Taft, LL.D., <i>New Haven, Conn.</i>
Robert Todd Lincoln, LL.D., <i>Chicago, Ill.</i>	Andrew D. White, Ph.D., LL.D., <i>Ithaca, N. Y.</i>
Seth Low, LL.D., 30 <i>E. 64th St., New York City</i>	John Sharp Williams, <i>Benton, Miss.</i>
	Henry Van Dyke, D.D., LL.D., <i>American Legation,</i> <i>Holland</i>

William R. Day, LL.D., Asso.J., <i>Washington City</i>	F. H. Norcross, LL.D., C.J., <i>Carson City, Nevada</i>
Charles E. Hughes, LL.D., Asso.J., <i>Washington City</i>	James Pennewill, C.J., <i>Dover, Delaware</i>
Theodore Brantley, C.J., <i>Helena, Montana</i>	Charles N. Potter, C.J., <i>Cheyenne, Wyoming</i>
Walter Clark, LL.D., C.J., <i>Raleigh, North Carolina</i>	Henry Wade Rogers, LL.D., <i>United States Circ. J.,</i> <i>New Haven, Conn.</i>
Matthew J. Kane, C.J., <i>Guthrie, Oklahoma</i>	Robert F. Taylor, Asso.J., <i>Tallahassee, Florida</i>
Edgar A. McCulloch, C.J., <i>Little Rock, Arkansas</i>	Charles S. Whiting, C.J., <i>Pierre, South Dakota</i>
F. A. Moore, C.J., <i>Salem, Oregon</i>	

Total 13+13=26

Total of the Seven Divisions of Electors Voting, 97

NOTE—Three Electors, Hon. Curtis Guild, of Massachusetts, Thos. Lounsbury, of Yale, and Hon. St. Clair McKelway, of Brooklyn, were removed by death early in the year. Dr. James Douglas, of New York City, under his physician's advice, was obliged to resign for this half year all serious work. Hon. Walter H. Page wrote as follows June 30th from the American Embassy in London:

"I am afraid I shall have to deny myself the pleasure of casting a ballot now for the admission of names to the Hall of Fame. In the succession of official duties here I have not been able to find time to give the subject ten minutes' serious thought. If you knew the conditions under which I am at present obliged to work, I think you would understand. For all future ballots I hope to justify the honor of my election as an Elector."

CONSTITUTION of the HALL OF FAME

ESTABLISHED MARCH, 1900; SUPPLEMENTED, 1904 AND 1914

I

A gift of one hundred thousand dollars ⁽¹⁾ is accepted by New York University under the following conditions: The money is to be used for building a colonnade five hundred feet in length, at University Heights, looking toward the Palisades and the Harlem and Hudson River valleys. The exclusive use of the colonnade with its substructure, is to serve perpetually as "The Hall of Fame for great Americans." One hundred and fifty panels will be provided for memorial bronze tablets. Fifty of these will be inscribed in 1900, provided fifty names shall be approved by the two bodies of judges named below. At the close of every five years thereafter, five additional panels will be inscribed, so that the entire number shall be completed by A.D. 2000. The statue, bust, or portrait of any person whose name is inscribed may be given a place either in the colonnade or in the Museum.⁽²⁾

⁽¹⁾ This gift was increased to one-quarter of a million dollars.

⁽²⁾ A Bronze Bust of Horace Mann was placed above his Tablet on July 8, 1905, on a pedestal of granite quarried near his birthplace. On September 29, 1909, a Bronze Bust of Robert Fulton on a pedestal of Connemara marble was placed above his Tablet as part of the programme of the Hudson-Fulton Celebration.

II

The following rules are to be observed for inscriptions:

(1) The University will invite nominations until May 1st, from the public in general, of names to be inscribed, to be addressed by mail to The Hall of Fame, University Heights, New York City.

(2) Every name that is seconded by any member of the University Senate will be submitted to one hundred or more persons throughout the country who may be approved by the Senate, as professors or writers of American history, or especially interested in the same.

(3) No name will be inscribed unless approved by a majority of the answers received from this body of judges before October 1st of the year of election. But the Senate may require more than a majority to elect.

(4) Each name thus approved will be inscribed unless disapproved before November 1st by a majority of the members of the New York University Senate, who are the Chancellor with the Dean and Senior Professor of each of seven schools, and the president or representative of each of certain theological faculties in or near New York City.⁽¹⁾

(5) No name may be inscribed except of a person whose home was in what is now the territory of the United States, and of a person who has been deceased at least ten years.

(6) In the first fifty names must be included one or more representatives of a majority of the following fifteen classes of citizens; also the Senate may require in each election after 1910 that every ballot contain at least one name from each of a majority of these fifteen classes:

(a) Authors and editors. (b) Business men. (c) Educators. (d) Inventors. (e) Missionaries and explorers. (f) Philanthropists and reformers. (g) Preachers and theologians. (h) Scientists. (i) Engineers and architects. (j) Lawyers and judges. (k) Musicians, painters and sculptors. (l) Physicians and surgeons. (m) Rulers and statesmen. (n) Soldiers and sailors. (o) Distinguished men and women outside the above classes.

(7) Should these restrictions leave vacant panels in any year, the Senate may fill the same the ensuing quinquennial year, following the same rules.

⁽¹⁾ The Chancellor Emeritus of the University was appointed in 1910 to act as President of the Senate whenever this body considers any business relating to the Hall of Fame.

III

The granite edifice which forms the ground story of the Hall of Fame shall be named the Museum of the Hall of Fame. Its final exclusive use shall be the commemoration of the great Americans whose names are inscribed in the colonnade above, by the preservation and exhibition of portraits and other important mementoes of these citizens. The six rooms and the long corridor shall in succession be set apart to this exclusive use. The outer western wall of the Hall of Languages and of the Hall of Philosophy, which look into the Hall of Fame, shall be treated as a part of the same, and no inscriptions shall be placed upon them except such as relate to the great names inscribed on the tablets. Statues and busts of the great Americans chosen may be assigned places either in the Museum of the Hall of Fame or in the colonnade, as the givers of the same may decide with the approval of the University.

IV

New York University, taking account of a widely expressed desire for a larger recognition of women in the plan of the Hall of Fame, set apart a site for a Hall of Fame for Women. Places will be provided for not less than fifty tablets. The Board of One Hundred Electors will be requested to elect in the year 1905 ten famous American women, also in each succeeding quinquennial year to add two names until all the tablets shall have been filled. The rules in Article II, excepting the sixth, will be observed in the choosing of names for the Hall of Fame for women.⁽¹⁾

⁽¹⁾ Recent gifts have been received by the Committeemen, of over \$33,000, for the following objects: the laying of the foundation of the Hall of Fame for Women, which overlooks Hall of Fame Terrace and Sedgwick Avenue; the completion of the North Colonnade; the work upon the Museum in preparation for the opening of the same, after long delay, for the reception and preservation of mementoes of the names inscribed in the Colonnade. Until the Women's Hall is completed, the Bronze Tablets to Famous Women will be shown in the Museum as soon as this shall have been opened to the public.

RULES FOR ELECTIONS

To the

HALL OF FAME

Adopted by the New York University Senate 1900; amended 1912*

I

The one hundred or more electors will be named in each quinquennial year in approximately equal numbers from the following four groups of citizens: (1) University or College Presidents. (2) Professors of history; Scientists. (3) Editors; Authors; Men of Affairs. (4) High Public Officials; Justices of the highest courts, National or State.

II

Every State or group of adjacent States having approximately one million inhabitants will be given one elector. No person connected with New York University shall be eligible as an elector.

III

On May 1st of each quinquennial year a preliminary list of nominations, arranged in the fifteen classes named in the constitution of the Hall of Fame, will be distributed by the Senate to the several divisions of electors as follows:

The Fifteen Classes	Divisions of Electors
(1) <i>Authors; Editors</i>	Authors.
(2) <i>Educators</i>	Presidents of Universities and Colleges.
(3) <i>Preachers; Theologians</i>	
(4) <i>Philanthropists; Reformers</i>	
(5) <i>Scientists</i>	
(6) <i>Engineers; Architects</i>	Scientists.
(7) <i>Physicians; Surgeons</i>	
(8) <i>Inventors</i>	
(9) <i>Missionaries; Explorers</i>	Professors of History.
(10) <i>Soldiers; Sailors</i>	
(11) <i>Lawyers; Judges</i>	Jurists.
(12) <i>Rulers; Statesmen</i>	High Public Officials. Men of Affairs.
(13) <i>Business Men</i>	
(14) <i>Musicians; Painters; Sculptors</i>	Editors.
(15) <i>Distinguished men and women outside the above classes</i>	

IV

Each elector on receiving the names assigned to him is asked (1) To add any name which he thinks should appear in the class in question; (2) To erase any name which he thinks is not famous in America, according to the definition of the word in the New English Dictionary, viz., "The condition of being much talked about, chiefly in a good sense; or reputation from great achievements." Any name thus erased by a majority of the Division of Electors to whom it is sent will be omitted from the final ballot. (3) To designate by the initials "M.J.F." (*more justly famous*) those names submitted which the elector places in fame above the others, designating thus not over one-third of the list. Every name designated thus by a majority of the electors to whom it is submitted, will be indicated on the final ballot, and may be admitted to the Hall of Fame by a majority of the ballots cast. Every name not so endorsed by the Division of Electors to whom it is submitted will require two-thirds of the ballots cast to secure admission to the Hall of Fame.

V

Each elector is requested to return the preliminary ballot, described above, to the Senate of New York University by June 1st, whereupon he will receive by June 30th the final list of nominations.

VI

Each elector is asked to mail to the Senate his final ballot by October 1st—preparing the same as follows: (1) Mark each name chosen by underscoring the same and by placing his initials opposite to the name. (2) Mark thus not to exceed (for 1915), twenty-three American men, choosing one at least from each of eight classes, being a majority of the fifteen classes of nominations. (3) Mark not to exceed (for 1915) eleven famous American women.

*NOTE. The amendments embodied in the above rules, in response to letters received from a number of Electors, are such as not to change any provision of the Deed of Gift which forms the Constitution of the Hall of Fame. They involve, (1) A return to the Rule of 1900, which required, for that year, every ballot for famous Americans to name a representative of each of a majority of fifteen classes specified in the Constitution. (2) The giving of opportunity to each Elector to communicate to his fellow Electors, by a preliminary ballot in May, his comparative estimate of the nominations in the class submitted to his judgment, (3) The giving of weight in the Final Ballot to each estimate concurred in by a majority of an Electoral Division.

RULES FOR ELECTIONS

HALL OF NAME

ARTICLE I

SECTION 1

SECTION 2

SECTION 3

SECTION 4

SECTION 5

SECTION 6

SECTION 7

SECTION 8

SECTION 9

SECTION 10

SECTION 11

SECTION 12

SECTION 13

SECTION 14

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SECTION 28

SECTION 29

SECTION 30

SECTION 31

SECTION 32

SECTION 33

SECTION 34

SECTION 35

SECTION 36

BIOGRAPHICAL INFORMATION CONCERNING CANDIDATES FOR THE HALL OF FAME

(NOTE.—Key to reference abbreviations: A, Appleton's Encyclopedia; EA, Encyclopedia Americana; EB, Encyclopedia Britannica; H, Harper's Encyclopedia of American History; NEAB, National Encyclopedia of American Biography; NIE, New International Encyclopedia; WW, Who's Who in America.)

Class II—Educators

- GALLAUDET, THOMAS HOPKINS; b. Philadelphia, Pa., Dec. 10, 1787; d. Hartford, Ct., Sept. 9, 1851; res. Middletown, Ct.; ref. EA, EB, NEAB.
- HOWE, SAMUEL GRIDLEY; b. Boston, Nov. 10, 1801; d. Boston, Jan. 9, 1876; res. Boston; ref. EA, EB, NEAB.
- WAVLAND, FRANCIS; b. New York City, March 11, 1796; d. Providence, R. I., Sept. 3, 1865; res. Providence, R. I.; ref. EA, EB, NEAB.
- WITHERSPON, JOHN; b. Yester, Scotland, Feb. 5, 1722; d. Princeton, N. J., Sept. 15, 1794; res. Princeton, N. J.; ref. EA, EB, NEAB.
- WOOLSEY, THEODORE DWIGHT; b. New York City, Oct. 31, 1801; d. New Haven, Ct., July 1, 1889; res. New Haven, Ct.; ref. EA, EB, NEAB.

Class III—Preachers, Theologians

- ASHBURY, FRANCIS; b. Handsworth, Eng., Aug. 20, 1745; d. Spottsylvania, Va., March 31, 1816; res. New York City; ref. EA, EB, NEAB.
- BEECHER, LYMAN; b. New Haven, Ct., Oct. 12, 1775; d. Brooklyn, N. Y., Jan. 10, 1863; res. Boston; ref. EA, EB, NEAB.
- BREWSTER, WILLIAM; b. Scrooby, Eng., 1560; d. Plymouth, Mass., April 16, 1644; res. Plymouth, Mass.; ref. EA, EB, NEAB.
- BUSHNELL, HORACE; b. Litchfield, Ct., April 14, 1802; d. Hartford, Ct., Feb. 17, 1876; res. Hartford, Ct.; ref. EA, EB, NEAB.
- MATHER, COTTON; b. Boston, Feb. 12, 1663; d. Boston, Feb. 13, 1728; res. Boston, Mass.; ref. EA, EB, NEAB.
- MOODY, DWIGHT LYMAN; b. Northfield, Mass., Feb. 5, 1837; d. Northfield, Mass., Dec. 22, 1899; res. Northfield, Mass.; ref. EA, EB, NEAB.
- PARKER, THEODORE; b. Lexington, Mass., Aug. 24, 1810; d. Florence, Italy, May 10, 1860; res. Boston, Mass.; ref. EA, EB, NEAB.
- SIMPSON, MATTHEW; b. Cadiz, O., June 21, 1811; d. Philadelphia, Pa., June 18, 1884; res. Philadelphia, Pa.; ref. EA, EB, NEAB.
- WILLIAMS, ROGER; b. Wales, 1607; d. Providence, R. I., March, 1684; res. Providence, R. I.; ref. EA, EB, NEAB.

WOMEN

Class II—Educators, Missionaries

- JUDSON, SARAH HALL BOARDMAN; b. Alstead, Nov. 4, 1803; d. St. Helena, Sept. 1, 1845; res. Burma; ref. EA, NEAB.
- PALMER, ALICE FREEMAN; b. Colesville, N. Y., Feb. 21, 1855; d. Paris, France, Dec. 6, 1902; res. Cambridge, Mass.; ref. EA, EB, NEAB.

Class IV—Home or Social Workers

- BLACKWELL, LUCY STONE; b. West Brookfield, Mass., Aug. 13, 1818; d. Boston, Mass., Oct. 13, 1893; res. Boston, Mass.; ref. EA, EB, NEAB.
- CUNNINGHAM, ANN PAMELA; nominated for her achievement in securing the preservation and protection of home and grave of George Washington; res. Rosemount, S. C.; d. 1875.
- DARE, ELEANOR; b. Hampton, Me., April 4, 1802; d. Trenton, N. J., July 17, 1887; res. Worcester, Mass.; ref. EA, EB, NEAB.
- DYER, MARY; b. England, 1600; d. Boston, Mass., June 1, 1660; res. Boston, Mass.; ref. EA.
- HUTCHINSON, ANNE; b. Lincolnshire, Eng., 1590; d. Westchester Co., N. Y., August, 1643; res. Rhode Island; ref. EA, EB, NEAB.
- MADISON, DOROTHY PAYNE; b. North Carolina, May 20, 1772; d. Washington, D. C., July 12, 1849; res. Washington; ref. NEAB.
- MOTT, LUCRETIA COFFIN; b. Nantucket, Jan. 3, 1793; d. Philadelphia, Pa., Nov. 11, 1880; res. Nine Partners, N. Y.; ref. EA, EB, NEAB.
- WASHINGTON, MARTHA; b. New Kent, Va., May, 1732; d. Mt. Vernon, Va., 1801; res. Mt. Vernon, Va.; ref. NEAB.
- WASHINGTON, MARY; b. Lancaster Co., Va., 1706; d. Westmoreland Co., Va., Aug. 25, 1789; ref. NEAB.

New York University
Hall of Fame
Robert Underwood Johnson, Director
(Absent in service as Ambassador to Italy)

Executive Office
347 Madison Avenue
New York

Mrs. William Vanamee
Secretary and Acting Director

By the ruling of the Senate of New York University the following nominations of persons who received as many as five votes in 1910 or 1915 will be placed upon the final ballot which will be sent to the entire electorate in June, 1920.

I: Authors

George William Curtis, John Fiske, William Lloyd Garrison, Horace Greeley, Francis Bret Harte, Francis Scott Key, Wendell Phillips, William Hickling Prescott, Noah Webster, Walt Whitman, William Dwight Whitney

II: Educators

Thomas H. Gallaudet, Samuel G. Howe, Francis Wayland, John Witherspoon, Theodore D. Woolsey

III: Preachers and Theologians

Francis Asbury, Lyman Beecher, William Brewster, Horace Bushnell, M.J.F., Cotton Mather, Dwight L. Moody, Theodore Parker, Matthew Simpson, Roger Williams

IV: Philanthropists; Reformers

None

V: Scientists

Spencer F. Baird, Nathaniel Bowditch, Matthew F. Maury, Benjamin Pierce, Benjamin Silliman, Benjamin Thompson, M.J.F.

VI: Engineers; Architects

James B. Eads, Alexander Lyman Holley, Henry H. Richardson, John A. Roebling

VII: Physicians; Surgeons

Crawford W. Long, Ephraim McDowell, William T. G. Morton, Benjamin Rush, James Marion Sims

VIII: Inventors

George Henry Corliss, John Ericksson, Charles Goodyear, Richard M. Hoe, Cyrus Hall McCormick, Robert McCormick

IX: Missionaries and Explorers

John Eliot, Samuel Houston, Elisha Kent Kane, Adoniram Judson, Meriwether Lewis, Jacques Marquette, Marcus Whitman

X: Soldiers; Sailors

George Rogers Clark, M.J.F., Stephen Decatur, John Charles Fremont, Nathaniel Greene, M.J.F., Nathan Hale, Thomas J. Jackson, M.J.F., Albert Sydney Johnston, John Paul Jones, George G. Meade, William Pepperell, Oliver Hazard Perry, David D. Porter, Philip Schuyler, Winfield Scott, Philip Henry Sheridan, Zachary Taylor, George Henry Thomas

XI: Lawyers; Judges

Thomas McIntyre Cooley, M.J.F., Oliver Ellsworth, William M. Evarts, Edward Livingston, Lemuel Shaw, M.J.F., Roger B. Taney, Henry Wheaton

XII: Rulers and Statesmen

Charles Francis Adams, Samuel Adams, M.J.F., Thomas Benton, James Gillespie Blaine, William Bradford, John C. Calhoun, Salmon Portland Chase, DeWitt Clinton, Edward Everett, Albert Gallatin, James Abram Garfield, John Hancock, John Hay, Patrick Henry, M.J.F., John Jay, M.J.F., Robert R. Livingston, James Monroe, Robert Morris, William H. Seward, Roger Sherman, Edwin McMasters Stanton, Alexander H. Stephens, Charles Sumner

New York University
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Secretary and Acting Director

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nominations of persons who received as many as five votes in 1910 or 1915 will
be placed upon the final ballot which will be sent to the entire electorate in
June, 1920.

I: Authors

George William Curtis, John Fiske, William Lloyd Garrison, Horace Greeley,
Francis Bret Hart, Francis Scott Key, Wendell Phillips, William H. Paine,
Prescott, Noah Webster, Walt Whitman, William Dwight Whitney

II: Educators

Thomas H. Gallaudet, Samuel G. Howe, Francis Wayland, John Witherspoon,
Theodore D. Woolsey

III: Preachers and Theologians

Francis Ashbury, Lyman Beecher, William Brewster, Horace Bushnell, M. L. F.,
Cotton Mather, Dwight L. Moody, Theodore Parker, Matthew Simpson, Roger Williams

IV: Philanthropists; Reformers

None

V: Scientists

Spencer F. Baird, Nathaniel Bowditch, Matthew F. Maury, Benjamin Pierce,
Benjamin Silliman, Benjamin Thompson, M. L. F.

VI: Engineers; Architects

James S. Eads, Alexander Lyman Holley, Henry M. Richardson, John A. Roebling,
VII: Physicians; Surgeons

Crawford W. Long, Ephraim McDowell, William T. G. Morton, Benjamin Rush,
James Marion Sims

VIII: Inventors

George Henry Goethals, John Krilow, Charles G. Loomis, Richard M. Hoe,
 Cyrus Hall McCormick, Robert McCormick

IX: Missionaries and Explorers

John Elliot, Samuel Houston, Eliza East Kane, Adoniram Judson, Matthew Lewis,
Jacques Marquette, Marous Williams

X: Soldiers; Sailors

George Rogers Clark, M. L. F., Stephen Decatur, John Charles Fremont,
Nathaniel Greene, M. L. F., Nathan Hale, Thomas J. Jackson, M. L. F., Albert Sydney
Johnson, John Paul Jones, George G. Meade, William Pappey, Oliver Hazard Perry,
David G. Porter, Philip Schuyler, Winfield Scott, Philip Henry Sheridan, Zachary
Taylor, George Henry Thomas

XI: Lawyers; Judges

Thomas McIntyre Woolsey, M. L. F., Oliver Ellsworth, William M. Wirt, Edward
Livingston, James H. Thayer, Henry Clayton

XII: Writers and Statesmen

Charles Francis Adams, Samuel Adams, M. L. F., Thomas Benton, James G. Thompson,
Elihu, William Brewster, John G. Thompson, Salmon Portland Chase, Lewis Clinton,
Richard Henry, Albert Gallatin, James M. Smith, John Hancock, John Jay,
Patrick Henry, M. L. F., John Jay, M. L. F., Robert H. Livingston, James Madison,
Robert Morris, William M. Smith, Roger Sherman, John Jay, John Jay, John Jay,
Alexander H. Stephens, Charles Sumner

XIII: Business Men

Stephen Girard, Johns Hopkins, Cornelius Vanderbilt

XIV: Musicians, Painters, Sculptors, etc.

Edwin Booth, Frederick Edwin Church, John Singleton Copley, Joseph Jefferson,
Frederick Law Olmstead, Hiram Powers, Theodore Thomas

XV: John Brown

WOMEN

I: Authors

Abigail Adams, Louise May Alcott, Alice Cary, Phoebe Cary, Sarah Margaret Fuller,
Helen Hunt Jackson, Lydia H. Sigourney, Constance Fenimore Woolson

II: Educators and Missionaries

Sarah Boardman Judson, Alice Freeman Palmer, M.J.F.

IV: Home or Social Workers

Lucy Stone Blackwell, Ann Pamela Cunningham, Eleanor Dare, Dorothea Dix
Mary Dyer, Anne Hutchinson, Dorothy Payne Madison, Lucretia Mott,
Martha Washington, Mary Washington

XIV: Musicians, Painters, Sculptors, etc.

Harriet Hosmer

XV: All Others

Sarah Bache, Pocahontas Rolfe

Note: The letters "M.J.F." following a name indicate that in one of the last elections the name was marked "Most justly famous" by a majority of one or more of the divisions of the electorate and was so characterized on the final ballot, as it will be this year.

XIII: Business Men
Stephen Girard, John Hopkins, Cornelius Vanderbilt
XIV: Miscellaneous, Painters, Sculptors, etc.
Edwin Booth, Frederick Edwin Church, John Singleton Copley, Joseph J. Lawrence,
Frederick Law Olmsted, Eliza Follen, Theodore Tilton
XV: John Brown

WOMEN

I: Authors
Abigail Adams, Louisa May Alcott, Alice Cary, Phoebe Cary, Sarah Margaret Fuller,
Helen Hunt Jackson, Lydia H. Sigourney, Catherine Fennell Woolson
II: Miscellaneous and Miscellaneous
Sarah Boardman Johnson, Alice Freeman Palmer, M. J. F.
III: Home or Social Workers
Lucy Stone Blackwell, Ann Pamela Cunningham, Minerva Davis, Dorothy Dix,
Mary Puer, Anne Hutchinson, Dorothy Fenshield, Lucinda Mott,
Martha Washington, Mary Washington
XIV: Miscellaneous, Painters, Sculptors, etc.
Harriet Hammer
XV: All Others
Sarah Bach, Pocahontas Rolfe

Note: The letters "M. J. F." following a name indicates that in one of the last
elections the name was carried "Most Justly Known" by a majority of one
or more of the divisions of the electorate and was so characterized on
the final ballot, as it will be this year.

NEW YORK UNIVERSITY

HALL OF FAME

ROBERT UNDERWOOD JOHNSON, Director

(Absent in service as Ambassador to Italy)

EXECUTIVE OFFICE:

347 MADISON AVENUE
NEW YORK

May 22, 1920

MRS. WILLIAM VANAMEE

Secretary and Acting Director

Dear Dr. Judson,

I am sending you herewith a ballot containing the names of the hold-over nominations in the classes which come under the jurisdiction of the special division of electors to which you belong. As indicated in the note at the top of the ballot, these names are sent to you not for your decision regarding the placing of them upon the final ballot, - a matter which is already settled, but for your consideration with reference to marking some of the names with the initials M.J.F., - "more justly famous." As explained in the prefatory note, the Senate has decided that fairness demands the sending of this special ballot, first, because a number of the electors have not served prior to this year, and second, because an elector who has served before may have altered his opinion regarding the relative fame of some of the candidates. Please notice that you are asked to mark not more than one-third of the names in each group. If you have not already returned your preliminary ballot, will you kindly send it, with this "Ballot for Special Marking" as soon as you can conveniently do so. I am compelled to ask this owing to the fact that some of the electors contemplate going abroad this summer and have requested that the final ballot shall be sent to them early in June.

Please let me refer again to the fact that the Senate ruling is that we must not send, from this office, any data concerning candidates except the briefest compilation of dates and references, inasmuch as it would be impossible to equalize the amount sent, and we should be in the position of seeming to favor one candidate more than another. We have, therefore, been compelled to tell the nominators that, this being the case, if they desired to send letters or data to the electors they must do it themselves, but we have told them we did not consider this at all necessary, we have urged them to make their statements brief, and above all else, we have discountenanced the multiplicity of personal appeals. Notwithstanding the advice which has been given, you will doubtless receive a mass of material, and we can only ask your indulgence and give you our assurance that the nominators have no idea of violating the canons of taste or of propriety in sending you such data. They are possessed with the idea that they have a personal duty to perform and they cannot rest until that duty has been performed. Possibly, after this election, the Electors and the Senate may be able to devise some way around this particularly trying phase of the election.

In addition to the "Ballot for Special Marking" I am sending you the full list of hold-over nominations and the full list of preliminary nominations.

Faithfully yours,

*Pres. Harry P. Judson,
University of Chicago,
Chicago, Ill.*

Mace D. Vanamee
Acting Director.

NEW YORK UNIVERSITY

HALL OF FAME

ROBERT UNDERWOOD JOHNSON, Director
(Address in writing as above or to the University)

MR. WILLIAM VAN DUSEN

May 22, 1920

EXECUTIVE OFFICE
20 MADISON AVENUE
NEW YORK

Dr. Johnson

I am sending you herewith a ballot containing the names of the hold-over nominations in the classes which come under the jurisdiction of the special division of elections to which you belong. As indicated in the note at the top of the ballot, these names are sent to you not for your decision regarding the placing of them upon the final ballot, - a matter which is already settled, but for your consideration with reference to marking some of the names with the initials M.T.N. - "more justly famous." As explained in the prefatory note, the Senate has decided that fairness demands the sending of this special ballot, first, because a number of the electors have not served prior to this year, and second, because an elector who has served before may have altered his opinion regarding the relative fame of some of the candidates. Please notice that you are asked to mark not more than one-third of the names in each group. If you have not already returned your preliminary ballot, will you kindly send it, with this "Ballot for Special Marking" as soon as you can conveniently do so. I am compelled to ask this owing to the fact that some of the electors contemplated voting abroad this summer and have requested that the final ballot shall be sent to them early in June.

Please let me refer again to the fact that the Senate ruling is that we must not send, from this office, any data concerning candidates except the briefest compilation of dates and references, inasmuch as it would be impossible to equalize the amount sent, and we should be in the position of sending to some one candidate more than another. We have, therefore, been compelled to tell the nominators that, this being the case, if they desired to send letters or data to the electors they must do it themselves, but we have told them we did not consider this at all necessary, we have urged them to make their statements brief, and above all else, we have disapproved the multiplicity of personal appeals. Notwithstanding the advice which has been given, you will doubtless receive a mass of material, and we can only ask your indulgence and give you our assurance that the nominators have no idea of violating the canon of taste or of propriety in sending you such data. They are possessed with the idea that they have a personal duty to perform and they cannot rest until that duty has been performed. Possibly, after this election, the Electors and the Senate may be able to devise some way around this particularly trying phase of the election.

In addition to the "Ballot for Special Marking" I am sending you the full list of hold-over nominations and the full list of preliminary nominations.

Respectfully yours,

Robert Underwood Johnson
Acting Director.

For Mr. P. Johnson
University of Chicago

NEW YORK UNIVERSITY

HALL OF FAME

ROBERT UNDERWOOD JOHNSON, Director

(Absent in service as Ambassador to Italy)

EXECUTIVE OFFICE:

347 MADISON AVENUE
NEW YORK

MRS. WILLIAM VANAMEE

Secretary and Acting Director

The following nominations for the Hall of Fame have been considered by New York University Senate and will be placed upon the preliminary ballots to be sent to special groups of electors. If approved by a majority of the special group to which a name is sent, it will be placed upon the final ballot, together with names of 111 men and 23 women which are to be voted upon again this year as "hold-over" nominations.

I. AUTHORS, EDITORS

Thomas Bailey Aldrich
Samuel Langhorne Clemens
Moncure D. Conway
Francis Marion Crawford
Charles A. Dana
Stephen Collins Foster

Richard Watson Gilder
Daniel Coit Gillman
Joel Chandler Harris
Bronson Howard
Henry Charles Lea
Francis Lieber

Grant Mitchell
Charles Eliot Norton
Thomas Paine
William Sydney Porter
Edmund Clarence Stedman
Henry David Thoreau

II. EDUCATORS

Samuel Chapman Armstrong

Borden Parker Bowne
George Fisk Comfort

Edward Austin Sheldon

III. PREACHERS, THEOLOGIAN

Edward Everett Hale

William Augustus Muhlenberg

Isaac Mayer Wise

IV. PHILANTHROPISTS, REFORMERS

Henry Bergh

Stephen Van Rensselaer

Edwin A. Stevens

V. SCIENTISTS

Josiah Willard Gibbs

Henry Lewis Morgan

Simon Newcomb

VI. ENGINEERS, ARCHITECTS

John Willis Griffiths
Charles Follen McKim

Robert Mills

John Stevens

VII. PHYSICIANS, SURGEONS

Frank Abbott
William Tillinghast Bull

John Murray Carnochan
Charles T. Jackson

William Shippen, Jr.
Lyman Spalding

VIII. INVENTORS

Stockton Borton
William Austin Burt

Walter Hunt

Ottmar Mergenthaler
Robert L. Stevens

IX. MISSIONARIES, EXPLORERS

Richard Bourne

Titus Coan

X. SOLDIERS, SAILORS

Ethan Allen
John Barry

Arthur St. Clair
Paul Revere
Sam A. Rice

J. E. B. Stuart
Emory Upton

XI. LAWYERS, JUDGES

L. Q. C. Lamar

Robert Yates

XII. RULERS, STATESMEN

John Clarke
Grover Cleveland
Jefferson Davis
Dekanawida

Frederick Douglass
William Penn
William Pepperrell
Carl Schurz

Philip Francis Thomas
Samuel Tilden
Robert Treat

XIII. BUSINESS MEN

Thomas Clark Durant

James Harper

Alexander Turney Stewart

XIV. MUSICIANS, PAINTERS, SCULPTORS, ETC.

William R. Barbee
Edward L. Davenport
Daniel Decatur Emmett
Edwin Forrest
George Fuller

Winslow Homer
George Inness
Edward MacDowell
Homer Dodge Martin
Augustus Saint-Gaudens

John Henry Twachtman
John Quincy Adams Ward
James Abbott McNeill Whistler
Alexander Hedwig Wyant

WOMEN

IV. HOME AND SOCIAL WORKERS

Susan B. Anthony

Jane Cunningham Croly

Elizabeth Cady Stanton

XIV. MUSICIANS, PAINTERS, SCULPTORS, ETC.

Fanny Davenport

NOTE.—The names in Classes I, XIV and XV will be sent to the Division of Authors and Editors of the electorate; of II, III and IV to Presidents of Universities and Colleges; of V, VI, VII and VIII to Scientists; of IX and X to Historians and Professors of History; of XI to Jurists; of XII and XIII to High Public Officials and to Men and Women of Affairs.

New York University

Hall of Fame

Robert Underwood Johnson, Director

(Absent in service as Ambassador to Italy)

Executive Office
347 Madison Avenue
New York

Mrs. William Vanamee
Secretary and Acting Director

Elections to the Hall of Fame

Class I: Authors

1900 Ralph Waldo Emerson, Henry Wadsworth Longfellow, Washington Irving
Nathaniel Hawthorne

1905 James Russell Lowell, John Greenleaf Whittier

1910 Oliver Wendell Holmes, Edgar Allen Poe, James Fenimore Cooper,
William Cullen Bryant, George Bancroft, John Lothrop Motley

1915 Francis Parkman

Class II: Educators

1900 Horace Mann

1915 Mark Hopkins

Class III: Preachers and Theologians

1900 Jonathan Edwards, Henry Ward Beecher, William Ellery Channing

1910 Phillips Brooks

Class IV: Philanthropists; Reformers

1900 George Peabody, Peter Cooper

Class V: Scientists

1900 John James Audubon, Asa Gray

1915 Louis Agassiz, Joseph Henry

Class VI: Engineers; Architects (None)

Class VII: Physicians; Surgeons (None)

Class VIII: Inventors

1900 Robert Fulton, Samuel F. B. Morse, Eli Whitney

1915 Elias Howe

Class IX: Missionaries and Explorers (None) *1915 Daniel Borne*

Class X: Soldiers; Sailors

1900 Ulysses Simpson Grant, David Glascoe Farragut, Robert E. Lee

1905 William Tecumseh Sherman

Class XI: Lawyers; Judges

1900 John Marshall, James Kent, Joseph Story

1905 Rufus Choate

Class XII: Rulers and Statesmen

1900 George Washington, Abraham Lincoln, Daniel Webster, Benjamin Franklin,
Thomas Jefferson, Henry Clay, John Adams

1905 John Quincy Adams, James Madison

1910 Andrew Jackson

1915 Alexander Hamilton

New York University
 Hall of Fame
 Robert Underwood Johnson, Director
 (Absent in service as Ambassador to Italy)
 Mrs. William Lawrence
 Secretary and Acting Director
 Executive Office
 347 Madison Avenue
 New York

Members of the Hall of Fame

- 1970 Philip H. Barlow, Henry H. Harkness, Washington Irving
 1969 James Russell Lowell, John Updike, William
 1968 Oliver Wendell Holmes, Edgar Allan Poe, James Fenimore Cooper,
 William Cullen Bryant, George Washington, John Jay, John Jay
 1967 Francis Pickens
 1966 Horace Mann
 1965 Mark Hopkins
 1964 Jonathan Edwards, Henry David Thoreau, William Miller, Charles
 1963 Philip Brooks
 1962 George Washington, Peter Cooper
 1961 John James Audubon, Ann Gray
 1960 Louis Agassiz, Joseph Henry
 1959 Robert Fulton, Samuel F. B. Morse, Eli Whitney
 1958 Elias Howe
 1957 Thomas Edison, David Glasgow Farragut, Robert E. Lee
 1956 William Tecumseh Sherman
 1955 John Jay, Joseph Henry
 1954 Rufus Choate
 1953 George Washington, Andrew Jackson, Daniel Webster, Benjamin Franklin
 1952 John Quincy Adams, James Madison
 1951 Andrew Jackson
 1950 Alexander Hamilton

Class XIII: Business Men (None)

Class XIV: Musicians; Painters; Sculptors; etc.

1900 Charles Gilbert Stuart

Class XV: Eminent Men Outside the Above Classes (none)

1915 ~~Daniel Beane~~

#####

Famous Women

Class I: Authors

1910 Harriet Beecher Stowe

Class II: Educators; Missionaries

1905 Mary Lyon, Emma Willard

Class IV: Home or Social Workers

1910 Francis E. Willard

Class V: Scientists

1905 Maria Mitchell

Class XIV: Musicians, Painters, Sculptors, etc.

1915 Charlotte S. Cushman

Note: An analysis of these elections will show that 50 men and 6 women have been elected, and had the full quota possible been elected there would have been 65 men and 14 women. It is possible, therefore, in 1920, to elect 20 men and 10 women.

Class XIII: Business Men (None)
Class XIV: Musicians; Painters; Sculptors; etc.

Class XV: Eminent Men Outside the Above Classes (None)

1900 Charles Gilbert Stewart

1901 Daniel Boone

MEMBERS

Women Members

Class I: Authors	1910 Harriet Beecher Stowe
Class II: Musicians; Missionaries	1908 Mary Lyon, Emma Willard
Class III: Home or Social Workers	1910 Frances A. Willard
Class IV: Politicians	1908 Maria Mitchell
Class V: Musicians, Painters, Sculptors, etc.	1912 Charlotte E. Coakley

Note: In analysis of these elections will show that 32 men and 5 women have been elected, and that the full quota possible had been elected there would have been 32 men and 14 women. It is possible, therefore, in 1900, to elect 32 men and 14 women.



OFFICE OF THE PRESIDENT
COPLEY SQUARE ON BOYLSTON STREET, BOSTON, 17

March 29, 1920.

President Harry P. Judson,
University of Chicago,
Chicago, Ill.

My dear President Judson:

May I suggest that Borden P. Bowne, for many years Professor of Philosophy in Boston University, should be admitted to the "Hall of Fame" of which you are an elector? If you desire any further information concerning him, I shall be pleased to forward it to you.

With all good wishes, I am

Faithfully yours,

L. H. Murlin

L. H. Murlin, President.

LM/W

3

April

Very

OFFICE OF THE PRESIDENT
APLEY SQUARE ON ROYALTON STREET, BOSTON, 17



March 22, 1920.

President Murlin:

Yours of the 29th of
while I was out of the city. I
to Professor Bowne. All data
ted, I believe, by the authori
ity.


My dear President Murlin:
I am sorry that Professor F. Johnson, for many years Pro-
fessor of Philosophy in Boston University, should be admitted to
the "Hall of Fame" of which you are an elected member. If you desire
any further information concerning him, I shall be pleased to
furnish it to you.

With all good wishes, I am

Sincerely yours,

J. M. Murlin

J. M. Murlin, President.



April 5, 1920

Mr President Murlin:

Yours of the 29th of March was received while I was out of the city. I note your suggestion as to Professor Bowne. All data about candidates are submitted, I believe, by the authorities of New York University.

Very truly yours,

President L. H. Murlin,
Boston University,
Copley Square on Boylston St.
Boston, Mass.

HPJ:JN

April 5, 1980

Dear President Marlin:

Yours of the 29th of March was received while I was out of the city. I note your suggestion as to Professor Bowen. All data about candidates are submitted, I believe, by the authorities of New York University.

Very truly yours,

President L. H. Marlin,
Boston University,
Copy 899 on Boylston St.
Boston, Mass.

HL:JN



OFFICE OF THE PRESIDENT
COPLEY SQUARE ON BOYLSTON STREET, BOSTON, 17

April 12, 1920.

President Harry P. Judson,
University of Chicago,
Chicago, Ill.

My dear President Judson:

For your information I am sending you the enclosed extract from "Who's Who in America" for 1910-11 concerning Borden P. Bowne about whom I wrote you recently.

Dr. Bowne's name has been forwarded to Mrs. William Vanamee, the Secretary and Acting Director of the Hall of Fame, for consideration by the Senate of the New York University.

Faithfully yours,

L. H. Murlin

L. H. Murlin, President.

LM/W
Enclosure



OFFICE OF THE PRESIDENT
CORLEY PASSAGE ON BOYLSTON STREET, BOSTON 37

April 15, 1930

President Harry F. Johnson,
University of Chicago,
Chicago, Ill.

My dear President Johnson:

For your information I am sending you the enclosed ex-
tract from "Who's Who in America" for 1930-31 concerning Jordan
F. Bowne about whom I wrote you recently.

Dr. Bowne's name has been forwarded to Mr. William
Venness, the Secretary and Acting Director of the Hall of Fame,
for consideration by the Senate of the New York University.

Sincerely yours,

J. H. Easton, President.

LMW
Enclosure

From "Who's Who in America", 1910-11

BOWNE, BORDEN PARKER, university dean.

B. Leonardville, N. J., Jan. 14, 1847; s. Joseph and Margaret (Parker) B.; A.B. New York U. 1871, A.M. 1876; univs. of Halle, Paris and Gottingen, 1873-75; (LL.D. Ohio Wesleyan, 1881, New York U. 1909); married, Asst. prof. modern languages, New York U. 1875-6; on staff The Independent, 1875-6; prof. philosophy and dean Graduate Sch. Arts and Sciences, Boston U. since 1876. Made a tour of the world 1905-6, and lectured before the Imperial U. of Japan and other ednl. bodies in Japan, China and India; hon. mem. Imperial Edu. Soc. of Japan. Author: The Philosophy of Herbert Spencer, 1874; Studies in Theism, 1879; Metaphysics, 1882, revised edit., 1898; Introduction to Psychological Theory, 1887; Philosophy of Theism, 1888, revised edit. 1902; The Principles of Ethics, 1892; Theory of Thought and Knowledge, 1897; The Christian Revelation, 1898; The Christian Life, 1899; The Atonement, 1900; The Immanence of God, 1905; Personalism, 1907; Studies in Christianity, 1909; Contrb. philos. and theol. articles to revs. and newspapers. Died 1910.

BOWEN, BERNARD PARKER, University Dean.

B. Leonardville, N. J., Jan. 14, 1847; s. Joseph and Margaret (Parker) B.; A.B. New York U. 1871; A.M. 1876; Univ. of Halle, Prussia and Göttingen, 1875-76; (L.D. Ohio Wesleyan, 1881; New York U. 1893); married, Anast. prof. modern languages, New York U. 1875-8; on staff the Independent, 1875-8; prof. philology and dean Graduate Sch. Arts and Sciences, Boston U. since 1876. Made a tour of the world 1903-6, and lectured before the Imperial U. of Japan and other schol. bodies in Japan, China and India; hon. mem. Imperial Mar. Soc. of Japan. Author: The Philosophy of Herbert Spencer, 1874; Studies in Theism, 1879; Metaphysics, 1882, revised edit., 1898; Introduction to Psychology, 1887; Philosophy of Theism, 1888, revised edit. 1902; The Principles of Ethics, 1892; Theory of Thought and Knowledge, 1897; The Christian Revelation, 1898; The Christian Life, 1899; The Atonement, 1900; The Immensity of God, 1905; Personalism, 1907; Studies in Christianity, 1909; Growth of Philos. and Theol. articles to revs. and newspapers. Died 1910.

April 19, 1920

Dear President Murlin:

Your favor of the 12th instant is at hand
and I note your suggestion about Dr. Bowne.

Very truly yours,

President L. H. Murlin,
Boston University,
Copley Square on Boylston St.
Boston, Mass.

HPJ:JH

April 19, 1930

Dear President Hurlin:

Your favor of the 13th instant is at hand

and I note your suggestion about Dr. Bowen.

Very truly yours,

President J. H. Hurlin,
Boston University,
Copley Square on Boylston St.,
Boston, Mass.

HPJ:JH

7



SOROSIS 1868

MRS. JOHN LEWIS CHILDS
 FLORAL PARK, LONG ISLAND
 NEW YORK
 TEL. FLORAL PARK II

May 24th, 1920.

Dr. Harry P. Judson,
 University of Chicago,
 Chicago, Illinois.

Member of the Electorate of the Hall of Fame.

Dear Sir:

Soros, founded by Jane Cunningham Croly in 1868, and well known as the "Mother of Women's Clubs", earnestly endorses the movement of the Woman's Press Club of New York City to place the name of "Jennie June" Croly on a tablet in the Hall of Fame.

Soros respectfully presents the fact that the organization of women for effective service in every department of social life has been an ever increasing benefit to mankind, and that the splendid cooperation of women in the vast labors of the World War was the crowning achievement of a great movement begun in a small way by "Jennie June" Croly.

Soros petitions that this woman's signal contribution to the evolution of her sex and the advancement of humanity be fittingly recognized and commemorated in this permanent way.

Caroline G. Childs.

President.

Shakespeare Library
Room 100
New York
New York



Shakespeare

Room 100

Shakespeare
Library
New York

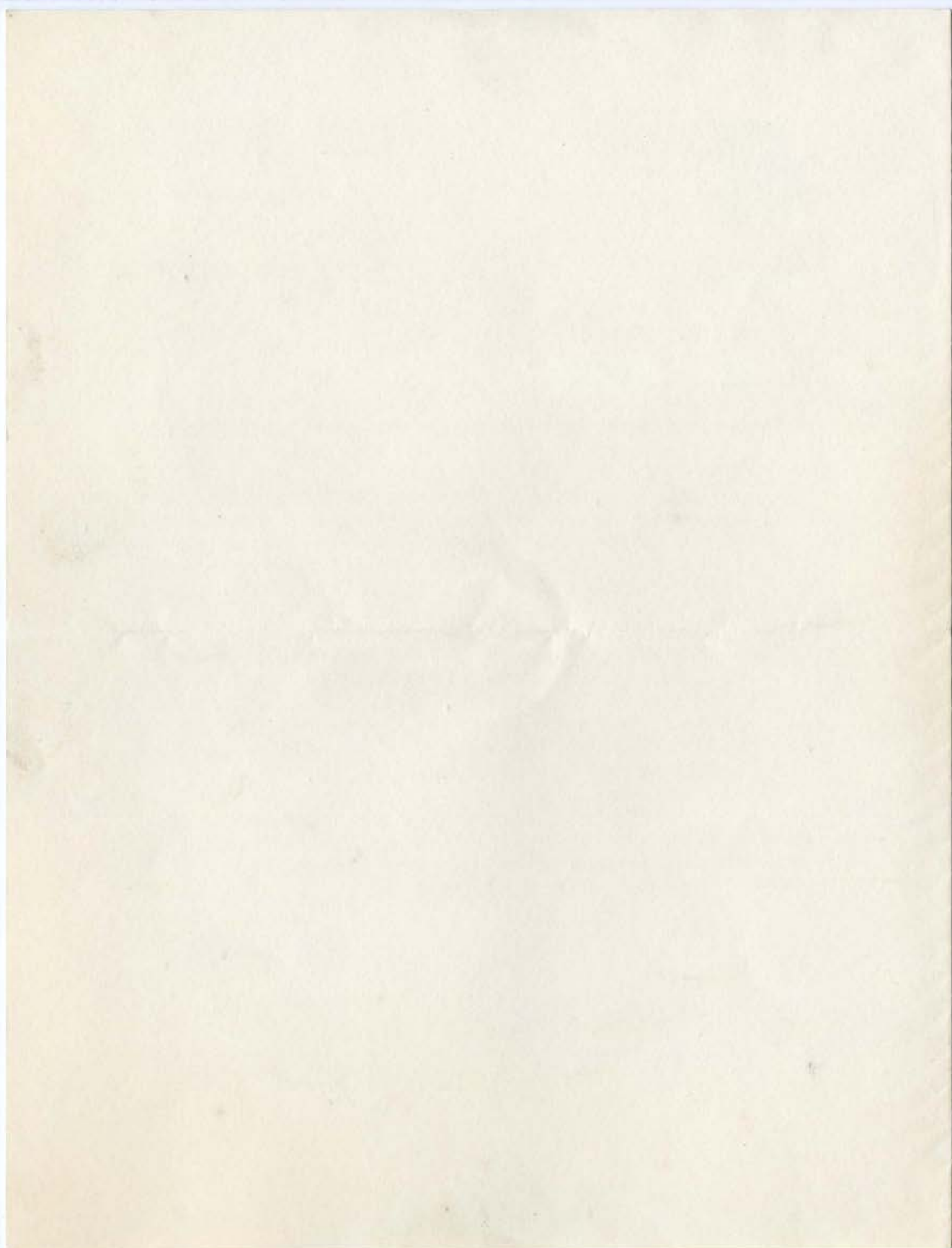
Shakespeare Library

Shakespeare Library
Room 100
New York
New York

Shakespeare Library
Room 100
New York
New York

Shakespeare Library

Room 100



Hull & Farnie

NATIONAL AMERICAN WOMAN SUFFRAGE ASSOCIATION

BRANCH OF INTERNATIONAL WOMAN SUFFRAGE ALLIANCE AND OF NATIONAL COUNCIL OF WOMEN

MRS. CARRIE CHAPMAN CATT, *President*

NATIONAL HEADQUARTERS, 171 MADISON AVENUE
TELEPHONE, 4818 MURRAY HILL
NEW YORK

1ST VICE-PRESIDENT
MRS. STANLEY MCCORMICK, MASS.
2ND VICE-PRESIDENT
MISS MARY GARRETT HAY, NEW YORK
3RD VICE-PRESIDENT
MRS. GUILFORD DUDLEY, TENNESSEE
4TH VICE-PRESIDENT
MRS. RAYMOND BROWN, NEW YORK
5TH VICE-PRESIDENT
MRS. HELEN GARDNER, WASHINGTON, D. C.

TREASURER
MRS. HENRY WADE ROGERS, CONNECTICUT
CORRESPONDING SECRETARY
MRS. FRANK J. SHULER, NEW YORK
RECORDING SECRETARY
MRS. HALSEY W. WILSON, NEW YORK



PRESS DEPARTMENT
Miss Rose Young, *Director*
171 Madison Ave., New York

DIRECTORS
MRS. CHARLES H. BROOKS, Kansas
MRS. J. C. CANTRILL, Kentucky
MRS. RICHARD E. EDWARDS, Indiana
MRS. GEORGE GELLHORN, Missouri
MRS. BEN HOOPER, Wisconsin
MRS. ARTHUR LIVERMORE, New York
MISS ESTHER G. OGDEN, New York
MRS. GEORGE A. PIERSOL, Pennsylvania

June 2, 1920.

President Harry P. Judson,
University of Chicago,
Chicago, Illinois.

Dear Sir:

I am writing again, in the absence of Mrs. Catt in Europe, urging the candidacy of Susan B. Anthony for the Hall of Fame.

I understand that the names sent down from the Section of College and University Presidents which have received the M. J. F. are entitled to be elected on a majority vote of the whole body of the electors, but that it requires a two-thirds vote if these letters have not been added to the name of the candidate.

You can understand our real anxiety that Miss Anthony be chosen for this high honor and I am therefore venturing to address you again and beg that if you conscientiously can you will give Miss Anthony's name the very best chance of being passed on favorably by the electors.

Yours very sincerely,

Emma Winner Rogers

(Mrs. Henry Wade Rogers)
Treasurer

R-E

Hull & Farnie

NATIONAL AMERICAN WOMAN SUFFRAGE ASSOCIATION

BRANCH OF INTERNATIONAL WOMAN SUFFRAGE ALLIANCE AND OF NATIONAL COUNCIL OF WOMEN

MRS. CARRIE CHAPMAN CATT, *President*

NATIONAL HEADQUARTERS, 171 MADISON AVENUE
TELEPHONE, 4815 MURRAY HILL
NEW YORK

1ST VICE-PRESIDENT
MRS. STANLEY MCCORMICK, MASS.
2ND VICE-PRESIDENT
MISS MARY GARRETT HAY, NEW YORK
3RD VICE-PRESIDENT
MRS. GUILFORD DUDLEY, TENNESSEE
4TH VICE-PRESIDENT
MRS. RAYMOND BROWN, NEW YORK
5TH VICE-PRESIDENT
MRS. HELEN GARDNER, WASHINGTON, D. C.

TREASURER
MRS. HENRY WADE ROGERS, CONNECTICUT
CORRESPONDING SECRETARY
MRS. FRANK J. SHULER, NEW YORK
RECORDING SECRETARY
MRS. HALSEY W. WILSON, NEW YORK



PRESS DEPARTMENT
MISS ROSE YOUNG, *Director*
171 Madison Ave., New York

DIRECTORS
MRS. CHARLES H. BROOKS, Kansas
MRS. J. C. CANTRILL, Kentucky
MRS. RICHARD E. EDWARDS, Indiana
MRS. GEORGE GELLHORN, Missouri
MRS. BEN HOOVER, Wisconsin
MRS. ARTHUR LIVERMORE, New York
MISS ESTHER G. OGDEN, New York
MRS. GEORGE A. PIERSOL, Pennsylvania

June 2, 1920.

President Harry P. Judson,
University of Chicago,
Chicago, Illinois.

Dear Sir:

I am writing again, in the absence of Mrs. Catt in Europe, urging the candidacy of Susan B. Anthony for the Hall of Fame.

I understand that the names sent down from the Section of College and University Presidents which have received the M. J. F. are entitled to be elected on a majority vote of the whole body of the electors, but that it requires a two-thirds vote if these letters have not been added to the name of the candidate.

You can understand our real anxiety that Miss Anthony be chosen for this high honor and I am therefore venturing to address you again and beg that if you conscientiously can you will give Miss Anthony's name the very best chance of being passed on favorably by the electors.

Yours very sincerely,

Emma Winner Rogers

(Mrs. Henry Wade Rogers)
Treasurer

R-E

7 Hall of Fame
LAW OFFICES
JACOB M. DICKINSON
108 SOUTH LA SALLE ST.
CHICAGO

TELEPHONE MAIN 4466

May
26th
1920.

Hon. Harry Pratt Judson,
University of Chicago,
Chicago, Illinois.

My dear Sir:

I have just been advised by Mr. Edward A. Bowers, of New Haven, Connecticut, that he has nominated the late Mr. Justice L. Q. C. Lamar to the Hall of Fame, and suggesting that I write to those of the electors whom I thought I might properly appeal to on the subject.

It is unnecessary for me to say anything to you in regard to the character and great ability of Mr. Lamar. I am sure that the people of the South generally would hail his election with very great satisfaction.

I trust that you may see your way clear to comply with what I am confident is their wish if they could now give expression to it.

Yours very truly,

J. M. Dickinson

Handwritten: 104

LAW OFFICES
JACOB M. DICKINSON
108 SOUTH LA Salle St
CHICAGO
TELEPHONE MAIN 4444

May
20th
1920

Hon. Harry Frost Johnson,
University of Chicago,
Chicago, Illinois.

My dear Sir:

I have just been advised by Mr. Edward A. Powers,
of New Haven, Connecticut, that he has nominated the late Mr.
Daniel G. C. Jones to the Hall of Fame, and suggesting that I
write to those of the electors whom I thought I might properly
appeal to on the subject.

It is unnecessary for me to say anything to you in
regard to the character and great ability of Mr. Jones. I am sure
that the people of the South generally would hail his election with
very great satisfaction.

I trust that you may see your way clear to comply with
what I am confident is their wish if they could now give expression
to it.

Yours very truly,

Handwritten signature: J. M. Dickinson

J. M. FORBES & CO.,

No. 614 Sears Building

Hully Fame

Boston, May 26, 1920.

Dr. W. T. G. Morton's name is to be voted upon for election to the Hall of Fame for his part in the discovery of ether. Many people conversant with the facts feel that Dr. Charles T. Jackson deserves credit for being the real discoverer, and it seems only fair that the facts setting forth the part he played in this connection should be clearly set forth and understood by the Electors, so that they may be in a position to judge accurately of the merits of the case. There is no doubt as to the value of the services performed by Dr. Morton in bringing this discovery to the attention of the public and putting it into practical use.

A brief statement is enclosed setting forth the facts collected from available public records.

The matter has been brought to my attention because Dr. Jackson was a relative of my mother's and I therefore have a family interest in it.

W. M. Forbes

May 26, 1920.
Boston

Dr. W. T. G. Morton's name is to be voted upon for election to the Hall of Fame for his part in the discovery of ether. Many people conversant with the facts feel that Dr. Charles T. Jackson deserves credit for being the real discoverer, and it seems only fair that the facts setting forth the part he played in this connection should be clearly set forth and understood by the Electors, so that they may be in a position to judge accurately of the merits of the case. There is no doubt as to the value of the services performed by Dr. Morton in bringing this discovery to the attention of the public and putting it into practical use.

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Presentation of Facts Relating to the Discovery of the Anæsthetic Effects of Ether Vapor by Charles T. Jackson and Disproving the Claim of W. T. G. Morton.

Dr. Charles T. Jackson was born in 1805. He graduated from the Harvard Medical School in 1829. At the time of his graduation he received from the Boylston Medical Society the premium for the best dissertation upon a medico-chemical subject. After receiving his degree he spent three years in Paris studying medicine. On his return to Boston he established himself in his profession as physician and surgeon, in which he became eminently successful. His taste for research in analytical chemistry and geology, however, gradually withdrew him from general practice. For many years he was almost exclusively employed as an analytical chemist and practical geologist. The labors of Dr. Jackson in chemistry and geology have given him a high place among the most eminent of our scientific men. Dr. Jeffries of Boston in an address delivered before the Suffolk District Medical Society said, "Let us remember with grateful pleasure that one of our own number, Charles T. Jackson, . . . did, in a series of experiments on gastric juice, so long ago as 1834, go far to show the chemical affinities of vital action."

Page 4*

Page 15

It was the rare union of extraordinary medical and chemical attainments which peculiarly fitted him to make a discovery that could not have originated with either the physician or chemist alone.

Page 4

* The marginal reference figures are to pages in the Report (minority) to the House of Representatives, vindicating the rights of Charles T. Jackson to the Discovery of Anæsthetic Effects of Ether Vapor presented to the House of Representatives on the 28th of August, 1852, by Edward Stanley and Alexander Evans, members of the select committee on the Ether discovery.

Page 5

In 1837 Dr. Jackson opened a large chemical laboratory on Somerset Street in Boston, for instructing his pupils, and for making chemical analyses for the State.

He had frequent occasion to experiment with chlorine gas and there were occasional accidents. Vapor of alcohol was the remedy first used for relief, but not finding it to answer the purpose he soon tried the inhalation of sulphuric ether vapor. From 1837 to 1841 this was the means in habitual use in his laboratory for relieving persons from the effect of chlorine.

In the winter of 1841-42 he made the discovery of anæsthesia by ether vapor. While preparing for a lecture he accidentally filled his lungs with chlorine gas, which nearly suffocated him. He immediately sought relief from ether and ammonia. The next morning, his throat being very painful and his lungs oppressed, he determined to make a thorough trial of the ether vapor.

Taking some pure washed sulphuric ether and soaking a towel in it he placed it over his nose and mouth and began to inhale the vapor deeply into his lungs. He then describes his sensation as if afloat in the air. This was accompanied by entire loss of feeling, even of contact with the chair. The pain in his throat ceased. He soon fell into a dreamy state and then became unconscious. As he became conscious he observed there was no feeling of pain in the throat and his limbs were still benumbed. Little by little sensation returned, but it was some time before full sensation was regained, and his throat became actually painful. He realized instantly that he had made the discovery that would admit the performance of surgical operation without pain.

Page 7

That the facts occurred and the deductions were made, as narrated by Dr. Jackson, is proved by the testimony of eight witnesses to whom he communicated the above facts:

Page 8

In the winter of 1841-42 to George Darracott.

Page 8

In the spring of 1842 to John H. Blake, a manufacturing chemist.

Page 9

In the summer of 1842 to William F. Channing, inventor of the electric fire alarm system.

Page 10

In September, 1842, to S. A. Bemis, a dentist of large practice.

In September, 1842, to Dr. George T. Dexter, recom-

mending its use on a patient with a painful spinal trouble.

In 1842 or 1843 to Henry D. Towle, an apothecary, speaking of it as suitable for surgical operations, and saying that it was his desire when relieved from the immediate pressure of his geological and chemical work to introduce it for this purpose.

Page 11

In November, 1845, to D. Jay Browne.

Page 12

In February, 1846, to Joseph Peabody, a student suffering from toothache.

Page 13

These witnesses were all men of unimpeachable character; most of them scientific or medical men upon whom Dr. Jackson's statements must have made a strong impression, as an examination of the affidavits prepared by them and collected in the report of the congressional committee will show. These witnesses have never been contradicted, and the only answer which the opponents of Dr. Jackson have given to this evidence is that his conduct was inconsistent with his possession of this great discovery. Nevertheless, Dr. Jackson's course in this matter was perfectly consistent with his course in relation to his other discoveries. D. Jay Browne in a letter to Dr. Jackson in 1851 says: "I had a long conversation with you in regard to the importance of your publishing your valuable researches. . . . You made your usual excuses for your neglect, saying that you wished to review them before you gave them to the public, as you had several other discoveries to publish at some future time which you intended to make free to the world." It was also stated at the hearing before the select committee that "the publication of some of his most important discoveries, as, for instance, that of the presence of chlorine in meteoric iron, was delayed for years." There are many examples in the history of science of long delays in the publication of important discoveries by minds of the highest order.

Page 7

Page 15

Page 15

Moreover, during the whole period from 1841 to 1846 Dr. Jackson was overwhelmed with other pressing duties. From 1840 to 1844 he was engaged in the geological survey of New Hampshire and for eight months of each year was in the field. The extent of his labors will be seen by referring to the large quarto volume containing his report on the geology of New Hampshire, a volume containing the most valuable

Page 16

hospital to let him (Mr. Morton) use it during a surgical operation. Mr. Morton obtained Dr. John C. Warren's sanction, and the world-famous operation was performed at the Massachusetts General Hospital.

Mr. Morton himself in the Memoir to the French Academy, printed in full in *Littell's Living Age*, No. 201, March 18, 1848, confirms to a great extent this account of the interview. He claims, however, to have made previous unsatisfactory experiments with sulphuric ether, which led him to go to Dr. Jackson to get important chemical information with regard to the subject, although he admits that the use of chloric ether to deaden the sensitiveness of a nerve in dentistry was taught him by Dr. Jackson.

Page 21

Mr. Morton's own conduct and admissions in the earlier period of the controversy show that it is unlikely that he had experimented with sulphuric ether previously to September 30. Prior to the time (*i.e.*, about two months after September 30) that Mr. Morton learned that the claim to the discovery on the ground of verification could not be sustained he freely admitted that Dr. Jackson was the originator of the discovery.

Page 25

There is the testimony of seven witnesses to statements made by Mr. Morton during this period to this effect. (See statements in the Minority Report.) Mr. D. P. Wilson of Boston, who entered into a contract with Mr. Morton to become an assistant in his office, said that Mr. Morton uniformly and without reserve ascribed its authorship to Dr. Jackson, never speaking of himself otherwise than as the first and fortunate person to whom Dr. Jackson had communicated it. He says, "I here speak of the time which intervened between . . . November, 1846, . . . and the month of February then next ensuing, when Morton first claimed the discovery to be his own." It was subsequent to this that Mr. Morton first set up the new claim that he had for several months prior to September, 1846, been experimenting with ether.

Page 24

Page 25

Page 24

Letters patent were applied for in which Dr. Jackson was represented as a joint discoverer.

Page 41

In a circular dated November 25, 1846, signed by Mr. Morton, appears the following: "I am now fully prepared

Page 33

to dispose of licenses to use my invention and apparatus in any part of the country upon the following terms: Terms for Dentists in cities of 150,000 inhabitants \$200.00 for five years, etc.; surgeons' licenses for five years, 25 per cent. on all charges made by performing operations wherein the discovery is used."

Page 20

According to Mr. Barnes, during the conversation of September 30, Mr. Morton repeatedly begged Dr. Jackson to keep the matter a secret, but this Dr. Jackson refused to do, saying, "I will have no secrets with my professional brethren."

Page 45
note
Page 44

The majority of the Select Committee of the House of Representatives (the vote was three to two) reported in favor of the claim of Mr. Morton. Great importance, however, was attached by the majority of this committee to the report of the trustees of the Massachusetts General Hospital. In fact the Committee adopted the conclusions of the report of the Hospital. They (the majority of the Committee) say the question of discovery was one in every way proper to be tried by "a jury of the vicinage," and that this jury had found in favor of Mr. Morton. Mr. Edward Stanley, a member of the Select Committee, wrote to each one of the trustees a letter. (See page 45 of Minority Report.) The answers according to the Minority Report showed that Dr. Jackson never appeared before the trustees personally or by counsel. The trustees, few if any of whom were doctors, but business men of large affairs in many cases, left the matter to Mr. N. I. Bowditch, one of their number, who alone was responsible for so much of the hospital report of 1847 as related to the ether discovery.

Page 46

Page 45
note

Because, as the Minority Report says, of the "violent bias" of Mr. Bowditch against Dr. Jackson and because of the importance attached to this report purporting to be that of the trustees of the Hospital it is important to point out that the report adopts the declaration of Dr. George Hayward, one of the surgeons of the Hospital, that Dr. Jackson first suggested the use of ether in surgery. It admits that Dr. Jackson devised and communicated to Mr. Morton the experiment performed by the latter, and gave him information

and directions absolutely essential to its safety and success. It admits that Dr. Jackson had experimented on his own person and had spoken to others of the effect, and yet after all these admissions the report, *i.e.*, Mr. Bowditch, says, "He [Mr. Morton] certainly first administered it [sulphuric ether] to a patient; by so doing, he made the discovery."

Pages 46, 17

As a set-off to the hospital report two petitions were presented to Congress signed by 143 members of the Massachusetts Medical Society, among them two physicians and one surgeon of the Massachusetts General Hospital. These petitions stated in substance that the signers were familiar with the principal facts of the great discovery of ether by Dr. Jackson, and that Mr. Morton's merit, "which they would by no means undervalue," consisted in having practically verified it and zealously labored to introduce it into surgical practice.

Pages 49, 51

Notwithstanding Mr. Morton's claim Dr. Jackson received the following medals from Europe:

National Magazine
Oct., 1896

Cross of the Legion of Honor—Gift of Louis Napoleon.
Red Eagle of Prussia—Gift of the King of Prussia.
Gold Medal—Gift of Oscar, King of Sweden.
Order of Medijieh—Gift of the Sultan of Turkey.
Cross of SS. Maurice and Lazzaro—Given by the King of Sardinia.

The Academy of Sciences in Paris decreed one of the Montyon prizes to Dr. Jackson for the discovery of etherization and a similar prize to Dr. Morton for the application of this discovery to surgical operations. See the letter of L. Elie de Beaumont, May 17, 1852. The Academy made this award in spite of the fact that it was in communication at the time with Mr. Bowditch.

Page 55

Page 46

In consulting twenty-six works which were published by physicians and surgeons in different countries of Europe between the years 1846 and 1852, not one of them accords to Mr. Morton any right to the discovery of anæsthesia; but, on the contrary, after examining the claims of the different aspirants to the honor of this discovery, with great unanimity accord it to Dr. Jackson.

Page 54
note

In conclusion, to quote the words of Mr. Stanley of the Select Committee in page 17 of the report: "If anything

Page 17

can be established by human testimony, it is proved that Dr. Jackson, on and before the 30th day of September, 1846, had clearly and fully formed the induction that the nerves of sensation could be paralyzed by the inhalation of pure sulphuric ether, to such an extent, that the severest surgical operation could be performed without causing pain, and that he had devised the means of applying it with perfect safety to the patient.

"By all the principles recognized among scientific men, the discovery was made when the induction was complete in the mind of Dr. Jackson, and nothing remained to be done except to subject it to the test of actual experience. No experiments of verification performed by another can take the right to a discovery from him who first formed the induction and prescribed the means of verifying it."

COPY.

58 Beacon Street,
Boston, April 16th, 1920.

To the Senate of the University of N.Y.,
University Heights, New York, N.Y.

Gentlemen:-

I am taking the liberty of sending to you the name of Dr. William T. G. Morton as an appropriate one to consider in connection with Group VII for the Hall of Fame.

I understand that medicine has thus far received no representative in the Hall of Fame and yet America gave to the world one of the greatest, if not the greatest, contribution to medical science, thus inaugurating a new epoch in the History of Medicine.

This epoch was ushered in on what is now known as Ether Day, October 16th, 1846, when Morton gave the first public demonstration of surgical anaesthesia in the Massachusetts General Hospital. Of this event Professor William H. Welch of Johns Hopkins University says: "The attendant circumstances were such as to make the operation performed on October 16, 1846, in the surgical amphitheatre of this hospital x x x x x x x the decisive event, from which date the first convincing public demonstration of surgical anaesthesia, the continuous, orderly, historical development of the subject and the promulgation to the world of the glad tidings of this conquest of pain."

Two months later, on December 21st, 1846, Robert Liston

55 Beacon Street,
Boston, April 18th, 1920.

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and the promulgation to the world of the glad tidings of this
conquest of pain."

Two months later, on December 23rd, 1846, Robert Liston

performed the first operation under ether in Europe at the University College Hospital in London. The operation was an amputation of the thigh and was painless. Of this discovery Liston said "This Yankee dodge, gentlemen, beats mesmerism hollow." In three months' time the use of ether had "become a world-wide procedure." (The Lancet October 26, 1915 "Ether Day in London October 16").

Of this great event Sir William Osler in a communication to the Royal Society of Medicine May 15, 1918, said, "Before October 16, 1846, surgical anaesthesia did not exist and the full credit for its introduction must be given to William Thomas Green Morton who, on the date mentioned, demonstrated at the Massachusetts General Hospital the simplicity and safety of ether anaesthesia."

No better comment on what was then accomplished can be given than in the words of Oliver Wendell Holmes, who christened the new discovery "anaesthesia" and said: "the fiercest extremity of suffering has been steeped in the waters of forgetfulness and the deepest furrow in the knotted brow of agony has been smoothed away forever."

Respectfully yours,

J. Collins Warren

Moseley Professor of Surgery Emeritus
Harvard University.

performed the first operation under ether in Europe at the University College Hospital in London. The operation was an amputation of the right arm and was painless. Of this discovery Watson said "This Yankee doggo, gentleman, looks meaner than hell." In three months' time the use of ether had "become a world-wide procedure." (The Lancet October 26, 1912 "Ether Day in London October 16").

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Respectfully yours,

J. Collins Warren

Professor of Surgery, Harvard University



ALFRED WAGSTAFF
PRESIDENT

The American Society for the Prevention of Cruelty to Animals.

Headquarters, Madison Ave. & 26th St.

New York. May 11, 1920

Dr. Harry P. Judson
University of Chicago,
Chicago, Ill.
Dear Sir:-

We take the liberty of writing you in behalf of the candidacy for the Hall of Fame, of Mr. Henry Bergh, the illustrious Founder and first President of this Society. Mr. Bergh's name is on the preliminary ballot and will, we trust, be approved by you and initialed M.J.F. and placed on the final ballot.

In 1866 Mr. Bergh founded this, the first society for the prevention of cruelty to animals in America. Actuated by his example, similar organizations were soon formed in other states, until today there are over five hundred societies for the protection of animals on the Continents of North and South America.

Mr. Bergh secured the enactment of the first comprehensive laws for the protection of animals in this country; they are considered the most effective anti-cruelty laws in existence and have been adopted, with few alterations, by every state in the Union.

In 1874 Mr. Bergh successfully prosecuted the first case of cruelty to children ever conducted in America. Following this and other prosecutions for child cruelty, he was chiefly instrumental in organizing The New York Society for the Prevention of Cruelty to Children, the first society of its kind in the world, in 1875. This movement has spread all over the world, there being nearly five hundred societies in America alone.

Mr. Bergh was born in New York City on August 29, 1813, and died there on March 12, 1888.

Mr. Bergh was a philanthropist who taught a new gospel, and his efforts produced an ameliorating effect upon the whole continent. As a unique personality in the history of the world he stood alone; he can be compared, he can be contrasted with no one.

The name of Henry Bergh is familiar in every land where Christian civilization controls.

Very truly yours,

Alfred Wagstaff
PRESIDENT



ALFRED WAGSTAFF
PRESIDENT

Dr. Harry F. Johnson
University of Chicago
Chicago, Ill.
Dear Sir:-

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he is not alone; he can be compared, he can be compared with no one.

The name of Henry Bergh is familiar in every land where
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Very truly yours,
ALFRED WAGSTAFF
PRESIDENT



Westerly Historical Society

This society favors the re-election of Roger Williams to the Hall of Fame.

To that end it ventures to put into the hands of the Electors the following quotations with the hope that the Electors also will be convinced that Roger Williams' contribution to our national life merits recognition.

SOME OPINIONS OF LEADING WRITERS OF HISTORY

If I were asked to select from all the great men who have left their impress upon this continent from the days that the Puritan Pilgrims set foot on Plymouth Rock, until the time when only a few days ago we laid to rest the greatest American in our generation—Theodore Roosevelt; if I were asked whom to hold before the American people and the world to typify the American spirit of fairness, of freedom, of liberty in Church and State, I would without any hesitation select that great prophet who established the first political community on the basis of a free Church in a free State, the great and immortal Roger Williams.

—Oscar S. Straus

He was the first man in modern Christendom to establish civil government on the doctrine of the liberty of conscience, the equality of opinions before the law, and in its defense he was the harbinger of Milton, the precursor and superior of Jeremy Taylor. * *

* * Let then the name of Roger Williams be preserved in universal history as one who advanced moral and political science, and made himself a benefactor of his race.

—George Bancroft, in "History of the United States"

Against the somber background of early New England, two figures stand above the rest—John Winthrop and Roger Williams. The first—astute, reactionary, stern—represented Moses and the Law, The second—spontaneous, adaptable, forgiving—represented Christ and the individual. It is needless to say with which lay the promise and the dawn.

—*I. B. Richman*

In the seventeenth century there was no place but the wilderness for such a John the Baptist of the distant future as Roger Williams. He did not belong among the diplomatic builders of churches, like Cotton, or the political founders of states, like Winthrop. He was but a babbler to his own time, but the prophetic voice rings clear and far, and ever clearer as the ages go on.

—*Edward Eggleston*, in "The Beginners of a Nation"

While living in this world, it was his fate to be much talked about, as well as to disturb much the serenity of many excellent people; and the rumor of him still agitates and divides men. There are, in fact, some signs that his fame is now about to take out a new lease, and to build for itself a larger habitation. At any rate, the world, having at last nearly caught up with him, seems ready to vote—though with a peculiarly respectable minority in opposition—that Roger Williams was after all a great man, one of the true heroes, seers, world-movers, of these latter ages.

—*Moses Coyt Tyler*, in "A History of American Literature"

It is from his original force of character, and his loyalty to a great principle, that Roger Williams derives his claims to our admiration. His shades of opinion are comparatively unimportant; but the spirit in which he worked, suffered, and triumphed, enrolls his name among the moral heroes and benefactors of the world.

—*Henry T. Tuckerman*, in "Essays, Biographical and Critical"

Hully Fanne
380 Longwood Avenue

Boston, April 29/20

My dear Mrs. Vanamee:

According to your request I filled out the questionnaire of your letter of the 17th and mailed it to you. I have since felt how inadequate it was.

The electors will certainly know that Professor Borden Parker Bowne was a distinguished author and educator, head of the philosophical department of Boston University for many years, but they may not know that he is perhaps the most illustrious graduate of the New York University having had the highest record as a student in all the subjects of his university course. His philosophical works are used as text books in our colleges. His philosophical system is known as Personalism and is having wide acceptance. From a purely missionary spirit he remained at Boston University, though every college of note in the country gave him a call. When President Porter was about to resign his position as head of the philosophical department in Yale he personally came to Professor Bowne in Boston and urged him to be his successor.

7
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When Chicago University was founded he was asked to be the head of the department of philosophy and upon his own terms. His books are being translated into Japanese and other languages.

Professor Bowne represented America at the Congress of Scholars at the St. Louis Exposition. In 1905 and 1906 he made a journey around the world and was accorded high honor in Japan, China, India. In all of these countries he lectured before schools and literary clubs. In Japan he was officially invited to lecture before the Imperial University at Tokyo and was made a member of the Imperial Education Society and was given a gold medal by the same. The City of Sendai, Japan, presented him with a beautiful bronze vase in recognition of his scholarship. At a public reception in Tokyo Count Okuma welcomed him to Japan and among other eulogistic remarks said: "As prime minister it has been my privilege to welcome many distinguished visitors to Japan but never have I welcomed greater men than Grant the soldier and Bowne the scholar". Professor Bowne never exploited himself but he was human and not above being pleased with such a compliment from Japan's "Grand Old Man".

When Chicago University was founded he was asked to be the head of the department of philosophy and upon his own terms. His books are being translated into Japanese and other languages.

Professor Bowne represented America at the Congress of Scholars at the St. Louis Exposition. In 1902 and 1903 he made a journey around the world and was accorded high honor in Japan, China, India. In all of these countries he lectured before schools and literary clubs. In Japan he was officially invited to lecture before the Imperial University at Tokyo and was made a member of the Imperial Education Society and was given a gold medal by the same. The City of Sendai, Japan, presented him with a beautiful bronze vase in recognition of his scholarship. At a public reception in Tokyo Count Okuma welcomed him to Japan and among other eulogistic remarks said: "As prime minister it has been my privilege to welcome many distinguished visitors to Japan but never have I welcomed greater men than Grant the soldier and Bowne the scholar". Professor Bowne never exploited himself but he was human and not above being pleased with such a compliment from Japan's "Grand Old Man".

When Professor Bowne first met President Roosevelt he was received with heartiness and the remark from that omnivorous reader: "I am delighted to meet the man who at twenty seven years of age demolished Herbert Spencer".

The following is a list of Professor Bowne's books -

The Philosophy of Herbert Spencer
Studies in Theism
Metaphysics - A Study in First Principles
Theory of Thought and Knowledge
Introduction to Psychological Theory
Principles of Ethics
Theism
The Immanence of God
Metaphysics
Personalism
Philosophy of Theism
Studies in Christianity
The Christian Life
The Essence of Religion
Kant and Spencer

Aside from these books are uncounted newspaper and magazine articles many of them unsigned as editorials.

New York University will not only honor Borden Parker Bowne but will honor itself by placing his name in the Hall of Fame.

Sincerely Yours,

Kate M. Bowne.

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New York University will not only honor
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Sincerely Yours,
Kate M. Bowne.

Mr. W. W. Campbell (Director of the Lick Observatory, University of California) herewith respectfully presents to the Electors of the Hall of Fame, for their consideration, the credentials of Simon Newcomb. Mr. Campbell does not attempt to eulogize Newcomb: the long list of high honors which came to him from the leading intellectual centers of the world is incomparably more eloquent than a colleague's eulogy could possibly be.

It has seemed advisable to omit from the published credentials numerous minor honors received and duties discharged by Newcomb.

Mr. Campbell stands ready to comply with requests for further information concerning Newcomb's life and work.

MOUNT HAMILTON, CALIFORNIA,
June, 1920.

Mr. W. H. ... of the ...
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It has been ...
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Dr. Harry P. Judson

Respectfully referred to the
Electors of the Hall of Fame

SIMON NEWCOMB

ASTRONOMER, MATHEMATICIAN, ECONOMIST

1835-1909

STIMON NEWCOMB

the writer is pleased to be
introduced to you by him

LETTER OF INTRODUCTION

Dear Sir, I have the honor to inform you that

you are invited to attend the

International Convention of the American People's Party

which will be held at the Hotel Hamilton, New York, on

Monday, the 10th of September, 1900.

Yours very truly,

STIMON NEWCOMB

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SIMON NEWCOMB

OUTLINE OF BIOGRAPHY

Born at Wallace, Nova Scotia, March 12, 1835.

Came to United States, 1853.

Was graduated Bachelor of Science, Harvard University, 1858.

Resided in Washington, District of Columbia, 1861-1909.

Married Miss Mary Caroline Hassler, August 4, 1863.

Died in Washington, July 11, 1909.

POSITIONS HELD

1854: Teacher of the public school, Massey's Cross Roads, Kent County, Maryland.

1855: Teacher of the public school, Sudlersville, Maryland.

1856: Tutor in a Maryland family.

1857-61: Computer in the Nautical Almanac Office, Cambridge, Massachusetts.

1861-97: Professor of Mathematics in the United States Navy; serving as Astronomer in the United States Naval Observatory from 1861 to 1877, and as Superintendent of the Nautical Almanac Office from 1877 to 1897; retired in 1897 by the naval age limit.

1860, 1869, 1870, 1878: Sent to distant stations by United States Government to observe total eclipses of the sun.

1871-86: Secretary of the Transit of Venus Commission created by Congress for the purpose of observing the transits of 1874 and 1882.

1873-84: Lecturer in Columbian (afterwards George Washington) University.

1876-77: Lecturer in Johns Hopkins University.

1879-80: Lecturer on Political Economy in Harvard University.

1881-82: Lecturer on the History of Astronomy in Lowell Institute.

1881-83: Home Secretary of the National Academy of Sciences.

1882: In charge of United States Government expedition to observe the transit of Venus at the Cape of Good Hope.

1884-86: Professor of Astronomy in Columbian University.

1884-94, 1898-1900: Professor of Mathematics and Astronomy in Johns Hopkins University.

1884-94, 1900-01: Editor of the *American Journal of Mathematics*, Johns Hopkins University; Co-Editor, 1894-1900 and 1901-09.

1895-1903: Mathematical Editor of *Science*.

1903: Foreign Secretary of the National Academy of Sciences.

1903-09: Research Associate in the Carnegie Institution of Washington.

1906: Commissioned Rear Admiral, Retired, in the United States Navy.

1906-09: Member of the Board of Overseers of Harvard University.

HONORARY MEMBERSHIPS IN LEARNED SOCIETIES

- 1860: Fellow of the American Academy of Arts and Sciences.
- 1869: Member of the National Academy of Sciences.
- 1872: Foreign Associate of the Royal Astronomical Society, London.
- 1873: Correspondent of the Paris Observatory.
- 1874: Correspondent of the Academy of Sciences, Paris.
- 1875: Foreign Associate of the Royal Swedish Academy of Sciences, Stockholm.
- 1875: Corresponding Member of the Imperial Academy of Sciences, St. Petersburg.
- 1876: Corresponding Member of the Royal Bavarian Academy of Sciences, Munich.
- 1877: Associate of the Royal Scientific Society, Upsala.
- 1877: Foreign Member of the Royal Society of London.
- 1878: Member of the American Philosophical Society.
- 1878: Foreign Member of the Holland Society of Sciences, Haarlem.
- 1878: Honorary Member of the Cambridge (England) Philosophical Society.
- 1881: Honorary Foreign Fellow of the Royal Society of Edinburgh.
- 1881: Foreign Member of the Royal Physiographical Society, Lund.
- 1882: Honorary Member of the Royal Irish Academy, Dublin.
- 1883: Corresponding Member of the Royal Prussian Academy of Sciences, Berlin.
- 1884: Corresponding Member of the British Association for the Advancement of Science.
- 1886: Honorary Member of the Association for the Improvement of Geometrical Teaching, afterwards the Mathematical Association, London.
- 1886: Associate of the Liverpool Astronomical Society.
- 1887: Honorary Member of the Manchester (England) Literary and Philosophical Society.
- 1888: Correspondent of the Royal Academy of Sciences, Göttingen.
- 1891: Honorary Member of the New York Academy of Sciences.
- 1891: Honorary Member of the Royal Institution of Great Britain, at the celebration of the Faraday Centenary.
- 1891: Honorary Fellow of the Royal Astronomical Society of Canada.
- 1891: Associate of the Royal Academy of Sciences, Brussels.
- 1895: Foreign Associate of the Academy of Sciences, Paris.
- 1895: Foreign Associate of the Royal Academy of the Lincei, Rome.
- 1896: Honorary Member of the Imperial Academy of Sciences, St. Petersburg.
- 1897: Corresponding Member of the Russian Geographical Society, St. Petersburg.
- 1897: Foreign Associate of the Italian Society of Sciences, Rome.
- 1897: Honorary Corresponding Member of the Royal Society for the Encouragement of Arts, Manufactures and Commerce, London.
- 1898: Foreign Associate of the Royal Institute of Sciences, Letters and Arts, Venice.
- 1898: Honorary Member of the Royal Academy of Sciences, Amsterdam.
- 1899: Corresponding Member of the Royal Institute of Sciences and Letters, Milan.
- 1899: Foreign Correspondent of the Bureau of Longitudes, Paris.
- 1901: Honorary Member of the Russian Astronomical Society, St. Petersburg.
- 1901: Honorary Member of the Royal Society of New South Wales, Sydney.
- 1902: Honorary Member of the Astronomical Society of Mexico.

- 1904: Corresponding Member of the Royal Academy of Sciences, Vienna.
- 1905: Corresponding Member of the Royal Academy of Sciences, Turin.
- 1905: Corresponding Member of the National Institute of Geneva.
- 1906: Honorary Member of the Royal Academy of Sciences, Letters and Arts, Padua.
- 1907: Honorary Fellow of the Physical Society of London.
- 1907: Foreign Member of the Society of Sciences, Christiania.
- 1907: Foreign Member of the Royal Academy of Sciences, Göttingen.

HONORARY DEGREES RECEIVED

- 1874: LL.D., Columbian University, now George Washington University.
- 1875: Master of Mathematics and Doctor of Natural Philosophy, University of Leiden, on the 300th anniversary of its founding.
- 1875: LL.D., Yale University.
- 1884: LL.D., Harvard University.
- 1886: Ph.D., University of Heidelberg, at the celebration of the 500th anniversary of its founding, conferred *in absentia*.
- 1887: LL.D., Columbia University, at the celebration of the "one hundredth anniversary of the Revival and Confirmation of the Legislature of the State of New York of the Royal Charter."
- 1891: LL.D., University of Edinburgh. This degree was offered in connection with the celebration (1884) of the 300th anniversary of the founding of the University, and finally conferred *in absentia*.
- 1892: Sc.D., University of Dublin, at the celebration of the 300th anniversary of its founding.
- 1892: Phil.Nat.D., University of Padua, at the celebration of the 300th anniversary of the appointment of Galileo as Professor, conferred *in absentia*.
- 1896: LL.D., University of Glasgow.
- 1896: Sc.D., Cambridge University.
- 1896: LL.D., Princeton University.
- 1899: D.C.L., Oxford University.
- 1900: LL.D., University of Cracow, at the celebration of the 500th anniversary of its founding, conferred *in absentia*.
- 1902: LL.D., Johns Hopkins University, at the celebration of the 25th anniversary of its founding.
- 1903: Math.D., University of Christiania, at the celebration of the centenary of the birth of Abel.
- 1904: LL.D., University of Toronto.

MEDALS, PRIZES, AND DISTINGUISHED GIFTS RECEIVED

- 1874: The Gold Medal of the Royal Astronomical Society, London, for his "Tables of Neptune and Uranus, and other mathematical works."
- 1878: The Huygens Medal of the Holland Society of Sciences, for "researches and discoveries or inventions during the previous twenty years."
- 1888: From the Imperial University of Tokyo, an official present of two bronze vases of exquisite workmanship and design, and great intrinsic value.
- 1889: A rare vase of jasper which, "in recognition of these merits, His Majesty the Emperor [of Russia] has graciously sent as a present for you from the Observatory at Poulkova."

- 1890: The Copley Medal of the Royal Society, London, for contributions to the progress of gravitational astronomy.
- 1894: The first prize, \$150, of two "Citizenship Prizes" offered by the Anthropological Society of Washington for the best essay on a given topic: "The elements which make up the most useful citizens of the United States."
- 1895: The prize of \$400 given by the *Astronomical Journal* for the "most thorough discussion of the theory of the rotation of the earth, with reference to the recently discovered variation of latitude."
- 1897: The Bruce Gold Medal of the Astronomical Society of the Pacific, for distinguished services to astronomy.
- 1897: The Schubert Prize of the Imperial Academy of Sciences, St. Petersburg, for notable achievements in theoretical astronomy.
- 1901: The first award of the Sylvester Prize of Johns Hopkins University, simultaneously to Lord Kelvin and to Professor Newcomb.

PRESIDENCIES AND VICE-PRESIDENCIES HELD

- 1877: President of the American Association for the Advancement of Science.
- 1879-80, 1909: President of the Philosophical Society of Washington.
- 1883-89: Vice-President of the National Academy of Sciences.
- 1887: President of the Political Economy Club of America.
- 1897-98: President of the American Mathematical Society.
- 1899: First President of the American Astronomical Society, re-elected for six consecutive years, and relieved at his own request.
- 1903-04: President of the International Congress of Arts and Sciences, Louisiana Purchase Exposition, St. Louis.
- 1904: A Vice-President of the Mathematics and Physics Section of the British Association for the Advancement of Science.
- 1905: Vice-President of the American Philosophical Society; re-elected each following year.
- 1908: A Vice-President in the Fourth International Congress of Mathematicians, Rome.

MISCELLANEOUS HONORS RECEIVED AND SERVICES RENDERED

- 1875: Offered the directorship of the Harvard Observatory.
- 1887: The Emperor of Russia ordered his portrait to be painted and placed in the gallery of famous astronomers at the Imperial Observatory, Poulkova.
- 1896: Delegate on the part of the United States to the conference in London, under the auspices of the Royal Society, to consider the question of preparing, by international co-operation, an adequate catalogue of scientific literature.
- 1896: Appointed an Officer of the Legion of Honor.
- 1896: Delegate to the conference at Paris on the Astronomical Constants.
- 1896: An invited guest at the celebration in Glasgow of Lord Kelvin's Jubilee.
- 1897: At the celebration of the Twenty-first Anniversary of the Founding of Johns Hopkins University, requested by the faculty and friends to sit for a portrait to be given to the University.
- 1899: Delegate of Johns Hopkins University to the Jubilee celebration of Sir George G. Stokes, Cambridge, England.
- 1899: Delegate of the National Academy of Sciences to a conference at Wiesbaden, for the purpose of organizing an international association of learned societies.

- 1900: "With grateful recognition of the valuable counsel you have given to this university since its organization, the Academic Council has unanimously recommended to the Trustees that you be appointed Emeritus Professor of Mathematics [in Johns Hopkins University] and the Board of Trustees with like unanimity approved this recommendation."
- 1903: One of five members of the Advisory Committee in Astronomy of the Carnegie Institution of Washington.
- 1903: Delegate of the National Academy of Sciences at the meeting of the International Association of Academies, London.
- 1905: Appointed Knight of the [Prussian] Order of Merit, by the German Emperor.
- 1906: Delegate at the Bicentenary Celebration of Benjamin Franklin's Birth, at Philadelphia, representing: (1) Royal Academy of Sciences, Letters and Arts, Padua; (2) Royal Academy of the Lincei, Rome; (3) Academy of Sciences, Paris; (4) Italian Society of Sciences, Rome.
- 1907: Appointed Commander of the Legion of Honor.
- 1908: Delegate from the National Geographic Society, Washington, to the International Congress of Geography, Geneva.

PUBLISHED WRITINGS

Professor Newcomb's bibliography embraces 536 titles: 315 in astronomy, 31 in mathematics, 35 in economics, and 154 in miscellaneous subjects. In addition to a large number of extensive technical papers, these titles refer to: many volumes, several of which have been translated into other languages; a series of eight mathematical textbooks; numerous articles and addresses of a "popular-science" nature; many articles for the *Britannica* and other standard encyclopedias; etc.

EXTRACTS FROM OBITUARY NOTICES

"The Academy has just suffered a great loss in the person of its Foreign Associate, M. Simon Newcomb. The illustrious American astronomer . . . was the worthy successor of Laplace and Le Verrier."—Professor Emile Picard, President of the Paris Academy of Sciences, at the meeting of July 19, 1909.

"In Simon Newcomb the Society has lost one of the greatest of its associates: a man worthy to rank with the great astronomers of all time. His position in his own country was one of pre-eminence, not merely among astronomers but among men of all sciences."—H. H. Turner, Professor of Astronomy in Oxford University, read at the Annual Meeting of the Royal Astronomical Society, 1910.

"The reception which has been accorded to them [Newcomb's achievements] by all competent men points to their author as one of the most illustrious representatives of celestial mechanics. His activity has embraced the most diverse branches of astronomy. Not only has he given a great scope to the intellectual movement of his country but he has also contributed in a very successful manner to elevate the level of the civilization of our age, enriching the domain of science with beautiful and durable conquests."—M. Loewy, Director of the Paris Observatory, in *Nature*, volume 60, page 3.

"He struck me as one whose natural powers were so great and industry so unflagging that he must have attained eminence and distinction in any career to which he had devoted his talents. . . . He saw things broadly, in their principles, and had that remarkable power of getting right at the heart of a subject, which is one of the most sure indices of a superior mind."—James Bryce, Ambassador from Great Britain, 1909.

