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Anniversary Address before the Medical Society of the State of New York.

By

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The air is teeming, and the earth is vibrant with sights and sounds of interest and of significance. A great nation is celebrating its first centennial, and pride and patriotism are evoked and burn in the breast of every citizen. Whoever can trace his pedigree to a revolutionary ancestor, feels twice possessor of his native soil. Whoever can bring forth relics of that trying and bloody era, which vexed the souls and wasted the bodies of our struggling and long-suffering progenitors, feels that he possesses treasures of greater value than gems or precious stones. The now great city, once the modest seat of the first capital of the dawning republic, opens wide its broad portals, and invites the *World* to attend the grand spectacle of a people jubilant and strong, mighty and influential; second to none on earth's surface in power and intelligence, and all this prominence attained in that unparalleled brief portion of a nation's being—one hundred years. The Mecca of every true and earnest American in 1876, is Philadelphia; and may each pilgrim, whether such in reality, or only in the heart's wishes, be so imbued with the true spirit of brotherly love, that foes from without and dissensions within may never tarnish or sever the bond lately so rudely shaken, but now bright-burnished and stronger than of yore. What part was played by the medical profession, and how its members bore themselves in the natal struggle of the now great Republic, and what was their status and influence, your speaker hopes in some measure to portray, and, therefore, invites your attention to Medical Men and Medical Matters in 1776.

The opportunities and advantages of Medical study at home, at this period, were limited and few. Of Medical schools, so-called, there were but two, and to these reference will be made hereafter.

Every student who could go abroad to acquire his profession, did so: London and Edinburgh being chiefly resorted to. A longer novitiate was required then at present, and few spent less than from three to seven years from home. As was but natural, attachments were formed to British institutions, British laws and customs, and many friendships were firmly established between individuals. All these bonds and convictions and personal advantages were to be sundered, or materially weakened, by engaging in the "rebellion," yet few hesitated. Animated by patriotism and persuasion of right, most of the returned Medical absentees sustained with all their influence and ardor the movement which at first seemed almost a hopeless struggle. And this was more of a sacrifice than is now apparent, for a very large proportion of the gentry—the wealthiest of their patients—adhered to the side of the mother country. The medical roll will compare favorably with that of any other class of citizens in the light of devotion and personal exposure.

Children catch the salient points of pictures, whether penned or painted. Bunker Hill fight is, in every schoolboy's mind, the most glorious episode of the revolutionary drama. And what is the central and engrossing figure? It is the death of Warren, whether hymned by Trumbull or told in history—and who will dare to doubt that thousands of heroic souls have been moulded by the youthful impression of that noble and devoted death. Joseph Warren was a native of Roxbury. After completing his medical education, he entered earnestly into practice, and was remarkably successful and popular. He possessed great eloquence and administrative talent, and being full of the patriotic enthusiasm that was just fanning into flame, was frequently consulted by the political agitators, of whom he soon became one of the leaders. In 1775 he braved the British myrmidons of Gage—delivering the oration commemorative of the Boston Massacre of 1770—in the face of threats of pointed bayonet and of pistol leveled at his head, foiling by his nerve and coolness the murderous intent of those who were stung to madness by his burning words. He it was who started Paul Revere on that ride famed in song and story. He it was who made the fight of Lexington memorable and encouraging. Honors were heaped upon him by his grateful and

admiring compatriots. He was made president of the Provincial Congress and chairman of the Committee of Public Safety. He was tendered the position of surgeon-general of the army, but declined it to accept that of major-general, for both of which posts he was well qualified. He was opposed to the occupation of Charleston Heights, on the ground of insufficient ammunition, but was overruled by Putnam and Prescott. When the fight of Bunker Hill commenced, his ardent spirit carried him to the contest. Both Putnam and Prescott offered him the command, he being their ranking officer. To the latter he courteously replied: "I am a volunteer, I come to learn the art of war from a veteran" —alas! he learned it on that fatal day from a bullet in his brain. Thus, at the early age of thirty-four years, his mortal career ended, but his influence lived on, and still lives. Never was man more lamented; grief and eulogy were universal. Mrs. Adams, under date of July 5th, 1775, writes: "Not all the havoc and devastation they have made, has wounded me like the death of Warren. We want him in the Senate. We want him in his profession. We want him in the field. We mourn for the citizen, the senator, the physician and the warrior." There being an impression that he had relinquished his profession for that of arms, it is proper to state that such was in contemplation, but was not fulfilled. He was busily engaged in visiting patients on the day preceding his demise, and many of the wounded, not knowing what had occurred, sent for him, and waited for his professional aid. Joseph Warren was the elder brother and preceptor of the distinguished and patriotic John Warren, M.D., who was the father of the no less eminent John Collins Warren, M.D. Massachusetts boasts no brighter sons.

On the immortal roll attached to the "Declaration of Independence," are the names of five physicians: Josiah Bartlett, of Massachusetts; Oliver Wolcott and Lyman Hall, of Connecticut; Matthew Thornton, of New Hampshire, and Benjamin Rush, of Pennsylvania. The latter, in the language of his biographer and enthusiastic admirer, Dr. Samuel Jackson, "did not sign the tremendous parchment because he was a member—he became a member that he might sign it, a fact that greatly enhances the merit." Jackson also intimates that Rush was chiefly the author

and framer of the Declaration itself. Rush took his medical degree in Edinburgh. He was a most enthusiastic admirer and disciple of Cullen, and until the Brunonian "Theory of Life" was enunciated, was an earnest and active propagandist of the doctrines of his eloquent teacher. When, after the lapse of many years, he was obliged to admit that "Cullen was tottering," and partially subscribed to the "new light," introduced by Brown, he still adhered to his respect for Cullen. He saw much of Franklin when in London, and the foundation of their subsequent intimacy was there laid. He returned to Philadelphia in 1769, engaged at once in practice, and was elected Professor of Chemistry in the Medical college of that city, of which Benjamin Franklin was the first President. He wrote and published largely on scientific, medical, humanitarian and political subjects. He rose very rapidly into prominence and esteem, and was appointed "physician general" to the army in 1776. After acting in that capacity for two years, he resigned, partly on account of a misunderstanding with the commander-in-chief, and partly because he could not effect certain reforms in the matter of hospital stores. In 1778, he returned to private practice, and from that time forward continued in it, being a most busy practitioner, teacher and writer, and yet making opportunity for many political and philanthropic efforts. In 1793, yellow fever appeared in Philadelphia; its spread was rapid, the mortality was fearful. Rush, and all other physicians were baffled. At length he remembered a manuscript on "Yellow Fever in Virginia, in 1741," by Dr. John Mitchell, an English resident at Urbana, on the Rappahannock, given to him in London by Dr. Franklin. He sought its neglected leaves, perused, thought, acted. Mitchell had been dead over twenty years, but his soul lived again in Rush, who argued, from the faithful description of the disease given, "that the debility arose from oppression of the vitals, and was only apparent." He combatted it first with purgatives, and then with blood-letting. The new treatment succeeded, and the elated Rush promulgated it to his colleagues and to the public. A terrible outcry was raised—opposition was fierce, and vehement and denunciatory. Parties pro and con were formed. The effect of the strife on the tempers of men was as dire as that of the epidemic on their bodies: but Rush and his

friends triumphed. "He published a full history of this epidemic the following year, which obtained unbounded praise throughout the medical world. Dr. Zimmerman said that he merited a statue, not only from Philadelphia, but from all humanity—and Dr. Letson states, that all Europe was astonished at his novelty and bold decision ; his unprecedented sagacity and judgment." This treatment, inducted by Rush, has not been sustained by long and repeated modern experience, but it was apparently successful at the time employed. Rush was now at the very zenith of his fame. He was confessedly the foremost medical man in America, and abroad was regarded as one of the Medical luminaries of the day. By his teachings and writings he attracted great numbers of students to Philadelphia, and was in reality its founder as a great centre for medical teaching and study. The limits and intent of this paper will not allow of further biographical reference to this great man, but perhaps a few remarks and deductions may not be inappropriate. He was very intelligent, highly educated, conscientious and philanthropic. His industry was almost unparalleled. He was the spirit of urbanity and courtesy. He was one of those strong, powerful, positive men, who are always *felt*. He had many enemies, but he had more friends. Few there are who are possessed of intellectual power that do not have both ; it is an unfortunate characteristic of humanity, but it is the truth. Rush has been called a Cullenist, a Solidist, a Brunonist, a mere theorist. He was strictly none of these. He was a positivist—he had convictions, always well-grounded, and he acted upon them. He studied human nature, he observed disease, he watched the effect of treatment, and although he was doubtless warped by the errors of the medical atmosphere of the age, he was no blind bigot; he was no unreasoning follower of any man or system. He lived fully up to the lights of his time, and in many respects was in advance of them. He has written, "that Phthisis is not essentially a specific disease, but a product of an inflammatory action." Are there not many at this very time advancing that as a new doctrine? His influence still lives, and if rightly interpreted, lives for good. Of how many of this present day may that truthfully be said one hundred years hence? Rush is buried in Christ Church graveyard. Let no medical man who celebrates

the centennial at its centre, fail to pay his tribute of respect to the spot where repose the remains of the physician, patriot and philosopher, Benjamin Rush. To the members of the Medical Society of the State of New York, it is a matter of interest and pride, that the name of Benjamin Rush stands first on the roll of honorary members—the date of the degree being 1808.

With the above necessary reference to the two physicians most prominently connected with the birth of republican America, and of too national renown to be limited to any section, pass we now to the consideration of some of the medical men of New York at this period. Of those immediately connected with the army, the number is not large. From the "Annals of Medical Progress," by the erudite Dr. Joseph M. Toner, of Washington, D.C., we make a few selections. "Dr. Peter Van der Lynn, a native of Holland, was surgeon in Col. Paulding's regiment during the Revolution. In 1777, when Fort Montgomery was attacked, he and General Clinton escaped by swimming across the Hudson." "Daniel Menema, a native of New York, served as surgeon in the second New York regiment, to the close of the war. He was a man of extensive acquirements and of elegant and affable manners. He was a member of the Society of Cincinnati. In 1806, he was President of the Medical Society of Queens county." "David Shepard, a native of New York, raised and commanded a company at the breaking out of the Revolution. He resigned the captaincy for the position of surgeon, and was in the battle of Bunker Hill. He died at Amsterdam, Montgomery county, December 12th, 1818, aged 74." "John Jones, M.D., of Jamaica, L. I., studied medicine in Philadelphia with Dr. Cadwallader, and completed his education in Europe. On his return to New York, he was appointed Professor of Surgery in the Medical College, and was physician to both Washington and Franklin, in Philadelphia, in 1780."

Dr. Jones was an old army surgeon, being in the Anglo-American army as early as 1755. He was a great favorite with army officers, and was frequently consulted by his old companions in arms, both in person and by letter. The writer has in his possession an autograph opinion of his, given to an ancestral relative, a colonel in the army. The language is choice, the diagnosis clear,

the advice and directions are admirable. Very little is said about medicine, and a great deal about hygiene, as to diet, exercise and clothing. Probably no physician of his day had, or deserved, a greater repute for sterling sound sense and clear perceptions. "Dr. Ebenezer White was born in Westchester county, in 1744, and settled at Yorktown previous to the commencement of the Revolution. He was much interested in politics and religion. He was noted as a patriot; the British making several ineffectual attempts to capture him for the purpose of exchanging him for an English surgeon in the hands of the Americans." One of these attempts terminated very tragically for Dr. James Brewer, also settled at Yorktown. Failing to secure White, the enemy seized Brewer, and as they were hurrying him away, his friends, in attempting a rescue, fired upon his captors and mortally wounded Brewer. "Ebenezer Crosby, a surgeon in the New York guards of the Continental army—a native of Quincy, Massachusetts—graduated from Harvard in 1777, and finished his medical education at the University of Pennsylvania. After the war he secured an enviable reputation in New York, and in 1785 was elected professor in Columbia College." "Charles McKnight was born at Cranbury, N. J., in 1750; studied medicine with Dr. Shippen, and entered the Continental army as surgeon, but was afterwards appointed senior surgeon of the flying hospital, in the middle department. At the close of the war he settled in New York, where he delivered lectures on anatomy and surgery. He communicated a case of extra uterine abdominal fœtus, successfully removed by an operation. (See Vol. IV, Mem. Med. Soc. of London.) The Doctor was one of the earliest physicians in New York to use a carriage as a conveyance in his rounds to visit patients. He died November 16, 1791, aged 41." "Dr. Samuel Adams, of Mt. Pleasant, a native of Scotland, came to America about the time of the Revolutionary war, and probably served as a surgeon in the Continental army. After the war he settled in Westchester county. So great was his reputation as a surgeon, that for many years no surgical operation of moment was performed in Westchester, or the contiguous counties, without his presence. He died in 1828, at the age of 90 years." "Isaac Gilbert Graham, a descendant of the Duke of Montrose, and a son of Dr. Andrew

Graham, was born in South Parish, Conn., in 1760; studied medicine under his father, a physician of high standing, and entered the Revolutionary army as assistant surgeon at an early age. He possessed the warm regard of General Washington, and of the officers of the General's staff, for his professional ability and staunch patriotism. At the close of the war he settled at Unionville, where he practiced for nearly sixty years. He died September 1st, 1848, in his eighty-eighth year." It may be remarked, in passing, that instances of longevity, like the two last-mentioned, in ex-medical officers of the Revolutionary army, are extraordinarily frequent.

"Richard Bayley, M.D., born in 1745, died in 1801, was an eminent physician in the city of New York. He was well qualified, and of a philosophic turn of mind; studied yellow fever with great care, and published an essay on yellow fever in 1797, with letters on yellow fever in 1798. He is said to have been one of the first physicians who rode to visit their patients." "Dr. Attwood, according to the historian Watson, was the first physician in New York to devote his time to obstetric practice, and to announce himself by advertisement to the public as an obstetrician. He was a contemporary of Dr. Bayley's." "Dr. Jacob Ogden, a native of New Jersey, practiced his profession for many years at Jamaica, L. I. He was particularly noted for his advocacy of innoculation, and was the author of a number of papers on malignant sore throat." Yellow fever, angina trachealis and malignant sore throat were at these times the themes of numerous papers, and of many interesting, and—it must be added—of many acrimonious discussions. The contagionists and non-contagionists were very bitter against each other. Among the physicians of this period should be mentioned Isaac Dubois, and John and Beekman Van Beuren, father and son, the latter of whom met with strong opposition for practicing innoculation for small-pox at the alms house, in 1770—all graduates of Leyden, and ardent pupils of the renowned Boerhaave; Henry Mott, who died in 1840, aged 83 years, the father of the illustrious Valentine Mott. Eminent themselves in their day and generation, they are represented professionally by those in our midst, who more than honor their parent stock.

In this connection we must not forget two Albany physicians,

mentioned by Dr. Sylvester D. Willard in his semi-centennial address of November 11th, 1856, before the Albany County Medical Society. Dr. Hunloke Woodruff, the partner of the successful and eccentric Dr. Wilhelmus Mancius, espoused the Colonial cause, and was surgeon to one of the New York regiments from the beginning until the close of the Revolutionary war. He was very much esteemed, and bore an enviable reputation for benevolence and hospitality. On one occasion he and his partner had a discussion, and Woodruff, being the better informed, got decidedly the advantage in the argument; but Mancius was by no means disposed to yield, and closed the debate with the emphatic and logical declaration, "The *cure* is the thing, Hunloke, and *I cure*."

Dr. Elias Willard, although born in Howard, Mass., is justly claimed as an Albanian. He was in the battle of Lexington, as a common soldier in the ranks, in company with his father and elder brother, but was soon appointed assistant in the military hospital at Roxbury, under Dr. Haywood; subsequently he was transferred to Boston, under Dr. John Warren, and still later was made regimental surgeon to a Maine regiment, with which he came to New York, and remained with it at White Plains, German Flats, and Ticonderoga, continuing with it through the whole contest, and sharing its privations and sufferings. He made Albany his residence in 1801, making warm friends and establishing a handsome practice. He was one of the first to be disciplined by the county society. Medical ethics were not as well established or observed then, as now. He thought he had a specific for the cure of cancer; he refused to divulge it, and was consequently expelled in 1811; but the medical society of Massachusetts, also disregarding ethics, elected him an honorary member in 1814. He enjoyed an active practice for over half a century, and died in his seventy-first year.

The revocation of the edict of Nantes in 1685, while a great blow to liberty and progress in France, was to other nations, and especially to colonial America, a source of wealth, power and vigor. No better material came from any quarter than that afforded by the proscribed and fugitive Huguenots. Scions of this race were John and Samuel Bard. The former was a native of Philadelphia. He removed to New York in 1746, when the lat-

ter, his son, was but four years of age. He immediately took a leading position, socially and professionally. He was the originator of the first Quarantine station in New York, having procured for that purpose the purchase of Bedloes Island, and the erection thereon of suitable hospital buildings. It is an historical fact, that he and Dr. Peter Middleton were among the first in America to practice dissection of the human cadaver. When the New York Medical Society was organized, in 1788, he was made its first president by a unanimous vote. He was the author of several monographs, but was particularly distinguished by his papers on the origin and importation of yellow fever. On this disease he was esteemed of the highest authority. He died in 1799, in his eighty-fifth year. Distinguished as was the father, his fame was far eclipsed by that of his son, so estimable in his filial relations, that had he no other virtue or eminence, he would stand on the tablet of history as one of the best and purest of mankind. Being of delicate health, at the age of fourteen he was sent to spend the summer at Coldenham, the seat of Lieut.-Governor Cadwallader Colden, who succeeded Lieut.-Governor De Lancey, and was the last of the Colonial lieut.-governors. Colden was educated as a physician, and was the personal professional friend of Dr. Bard. Dr. John B. Beck, in his address before this Society in 1842, speaks very enthusiastically of Colden, and quotes Rush as saying that Colden was one of the first to give wine in putrid and nervous fevers. He was a very erudite man, and the author of many scientific, historical and medical papers. From a long list in the III Vol. of the Colonial History of New York, we select the titles of a few. "Account of the climate of New York;" "History of the Five Nations," pronounced by Verplanck "of the highest authority in everything that relates to our North American Indian history and antiquity;" "Observations on Fever in New York, in 1741–42; communicated to Dr. David Hosack;" "Observations on the Throat Distemper, which appeared first in Massachusetts, in 1735; communicated to Dr. Fothergill, of London, in 1753," probably one of the first authentic descriptions of diphtheria; "An Inquiry into the principles of Vital Motion;" "Correspondence with Dr. Benjamin Franklin;" "Correspondence with Linnæus;" "Corres-

pondence with Gronorius, of Leyden;" "Letters to Dr. John Bard, on the Small-pox."

Gov. Colden occupied the executive chair of New York until June 25th, 1775. Almost his last official act was to announce "that Congress had appointed George Washington commander-in-chief of the American army." He was a staunch loyalist, yet he did all that he could to avert the struggle that was impending. He died in his eighty-eighth year. With such a Mentor we can well understand how the foundations of that elegant taste, that broad scientific inquiry, and that tireless industry, characteristic of Samuel Bard, were laid. Not the least pleasing incident of his sojourn at Coldenham, was his devotion to Miss Colden, many years his senior. This lady was an accomplished botanist, and a valued correspondent of Linnæus. Young Bard became her enthusiastic pupil, and under her instructions acquired much of that knowledge in this branch of science, for which he subsequently was celebrated. Returning to his home, both invigorated and instructed, he entered King's College—now Columbia—graduated when nineteen, and sailed for Europe, there to study medicine. It was during the French and English war; the vessel was captured, and Bard and his companions were imprisoned in France. After a captivity of five months, he was released through the exertions of his father's friend, Benjamin Franklin, then resident in London, and this was the commencement of an intimacy with that great man, which was life-enduring and fruitful of advantage, it is not too much to say, to both.

After spending several months in London, listening to the lectures of the eminent teachers of that city, and being especially under the auspices of Dr. Fothergill, the friend of Dr. Colden, he proceeded to Edinburgh, attracted by that great luminary, Cullen, who seemed to draw all American students to his immediate sphere. Bard was not less enthusiastic than the others, and in a letter home spoke of him as "that accurate professor." His private instructor was Dr. John Brown, the subsequently celebrated originator of the Brunonian Theory. While a student, he obtained the first prize in botany, given by the distinguished Dr. Hope. The dried specimens which he presented with his essay, were pronounced by Dr. Pultney superior to any in the British Museum—a pleasing

commentary on the rambles with Miss Colden. He preferred Edinborough to London, and Monro to Hunter, as an anatomist: his only regret as to the change was, "here I cannot dissect; to possess a subject would be at the risk of banishment, or even of life." Referring to the expense entailed upon his father by his foreign education, he writes: "I am laying it out to the best advantage now, to return double when we come to a reckoning," a promise much more than literally fulfilled. During his residence abroad he spent some time at Leyden, where he became an enthusiastic admirer of Boerhave; Cullen still, however, holding the first place in his respect and esteem. After an absence of five years he returned to New York, and immediately entered into partnership with his father, and for three years devoted his time and his talents to the payment of the debt incurred for his education, reserving nothing but a mere living for himself. At the end of this period he married his cousin, Miss Mary Bard, and started out, "on faith and £100," in an independent career. Almost his first effort was to organize a medical school in connection with King's College. This was soon accomplished, and this institution he most faithfully served in various capacities, under its several names and connections, for the long period of forty years. Degrees were first conferred by it in 1769, and the public address on the occasion was delivered by Dr. Bard. It is described as singularly and impressively eloquent. The establishment of a city hospital was the next project of this philanthropist. He accomplished it chiefly by an address on the Duties of the Physician; interesting the Colonial authorities to such an extent, that they subscribed very liberally. Sir Henry Moore, Governor of the Province, who was one of the audience, leading off with £200, and otherwise lending his efficient aid. The building was constructed, but unfortunately destroyed by fire just on the eve of its completion. It was not rebuilt until 1791. Bard was one of its most faithful visiting physicians during the remainder of his professional career. He instituted in it clinical lectures, which were models of care and precision. In the aforesaid lecture on the "Duties of the Physician," he led the way by pointing out its abuses and pernicious tendencies to the separation of the functions of physician and apothecary—confessedly in all intelligent professional minds a most hurtful association: yet

even at this day cherished by a few, and which that sterling old Knickerbocker, the learned Dr. John W. Francis, would never entirely abandon. When the Revolutionary crisis arrived, Bard left New York on the eve of its occupation by the British. He, however, was soon forced by the exigencies of the times to return. He found his house in the possession of the enemy, himself regarded with distrust by his former (loyalist) friends, without occupation, and indeed in danger of arrest as a spy. From this last he was saved by Matthews, the mayor of the city, who hearing what was in contemplation, rushed to his rescue, claimed him as his family physician, and pledged his honor as a loyalist that Bard was guiltless. This turned the tide, and Bard was soon again in great demand. When peace was declared, and New York was evacuated by the British, Bard was again, in turn, the object of suspicion and animosity to the Republicans; but from this position he was relieved by the action of Washington, who, when Congress assembled in New York, sent for Bard, and placed himself under his care. Washington was seriously ill, and attributed his recovery to the attention he received. Bard formed an nigh opinion of his personal character, and was proud of the intimacy thus established.

In 1788, the noted "Doctor's Mob" occurred. It arose from suspicion of desecrated graveyards, and the populace became so excited, that both civil and military authorities were set at defiance. Nearly every physician was obliged to fly or to conceal himself. Bard was especially an object of ephemeral rage, partly from his well-known zeal for post-mortem examinations, and partly from the intrigues of a cabal who revived the charge of toryism. He, however, refused to conceal himself, and when the enraged crowd rushed to his house, he caused the doors and windows to be wide opened, and coolly stood at the door with uncovered head and fearless glance. The imprecations were changed to plaudits by this undaunted bearing. President Duer relates an amusing anecdote in this connection. He says: "'The Doctor's Mob' was produced by the careless exposure of a subject from the dissecting room of the hospital. It became necessary to call out the militia to put down the rioters, and many of the principal citizens repaired to the assistance of the civil authority; some of them were

severely wounded. Mr. Jay received a serious wound in the head, and the Baron de Steuben was struck by a stone, which knocked him down, inflicted a flesh wound upon his forehead, and wrought a sudden change in the compassionate feelings he had previously entertained towards the rabble. At the moment of receiving it, he was earnestly remonstrating with Governor Clinton against ordering the militia to fire on the 'people,' but as soon as he was hit, his benevolence deserted him, and as he fell he lustily cried out, 'Fire! governor! fire!'"

In 1791, John Bard having again lost his property, his son again and for the third time paid his debts, and took him into partnership. This lasted for three years, until the senior Bard made his final retirement from the profession. In 1798, Dr. Samuel Bard formed a partnership with the rising and brilliant David Hosack, intending to spend most of his time at his country seat, and to enjoy, amidst agricultural and rural pursuits, that repose so congenial to his tastes, and so well calculated to build up and prolong a life which, for more than half a century, had been untiring in professional labor; but the same year the dread epidemic, which of late had been so pitiless in its scourges, again visited the city, and Bard returned to his post and threw his whole soul into the strife with his but too familiar foe. His skill effected much, but his presence did more. It stayed alarm, it restored confidence, it encouraged the wavering, it set a glorious and never-to-be-forgotten example to his younger medical brethren. After toil worthy of his most vigorous days, he was himself attacked, and nearly succumbed to the pestilence. He survived to see his devotion crowned with success, and to find himself more endeared than ever to his fellow-citizens. Besides the various positions of trust and honor, already mentioned, Dr. Bard was one of the founders of the New York city dispensary, of the Agricultural Society, and of the first public library. He died in his eightieth year, twenty-four hours after the demise of his devoted wife, with whom he had lived for over fifty-five years in one of the most perfect unions that ever blessed man and wife. For much of the above matter pertaining to Samuel Bard, the writer is indebted to the graceful memoir by Prof. James P. White, published in Gross' Medical Biography. Brief allusion may here be made to David Hosack, also of Huguenot descent, upon whose ample shoulders

the mantle of Bard was laid. He was, undoubtedly, one of the most polished and cultivated gentlemen that ever adorned the profession of medicine. He was the intimate friend and associate of Alexander Hamilton—Washington's great secretary—and accompanied him to the fatal field when he lost his invaluable life by the hand of the notorious Col. Burr. Dr. Francis, in his historical discourse, says: "Of my preceptor and friend, David Hosack, let it be sufficient to remark, that distinguished beyond all his competitors in the healing art, for a long series of years he was acknowledged by every hearer to have been the most eloquent and impressive teacher of scientific medicine and clinical practice this country has produced. He was, indeed, a great instructor. His descriptive powers and his diagnosis were the admiration of all. His efficiency in rearing to a high state of consideration the College of Physicians and Surgeons, while he held the responsible office of professor, is known throughout the Republic. His early movement to establish a medical library in the New York Hospital; his co-operation with the numerous charities which glorify the metropolis; his adventurous outlay of the establishment of a State botanical garden (the Elgin Garden); his hygienic suggestions the better to improve the medical police of New York; his copious writings on fevers, quarantine and foreign pestilence, in which he was the strenuous and almost sole advocate, for years, of doctrines now verified by popular demonstration; these, and a thousand other circumstances, secured to him a weight of character that was almost universally felt. It was not infrequently remarked by our citizens, that Clinton, Hosack and Hobart were the tripod on which our city stood. The lofty aspirations of Hosack were further evinced by his whole career as a citizen. Surrounded by his large and costly library, his house was the resort of the learned and enlightened from every part of the world. No traveler from abroad rested satisfied without a personal interview with him; and at his evening soirees, the literati, the philosopher and the statesman, the skilled in natural science and the explorer of new regions, the archæologist and the theologian met together, participators in the recreation of familiar intercourse. His life was a triumph in services rendered and in honors received. His death was a loss to New York, the city of his birth. His remains

were followed to the grave by the eminent of every profession, and by the humble in life whom his art had relieved."

It may be here remarked, that Dr. Hosack filled and adorned five different medical chairs in the course of his career. First, that of botany, then superadded, that of materia medica, in Columbia College; then, in 1807, that of surgery and midwifery, and finally, those of theory and practice, and of physic and clinical medicine in the College of Physicians and Surgeons. Dr. Hosack's preceptor was Nicholas Romayne, one of the old Dutch stock. He was pursuing his studies at Edinburgh when the Revolutionary war broke out, and less patriotic, or perhaps more provident than most of his American confreres, did not return to his native land until the struggle was over. Entering New York as the British were evacuating it, he almost immediately found himself in request as a medical instructor, teaching several departments, and being associated with such men as Bayley, Kissam, Tillery, Treat and Moore. In 1807, he was appointed by the Regents of the University, president of the College of Physicians and Surgeons, and in 1808, was elected president of the Medical Society of the State of New York, which office he filled for three successive terms. His form was immense; his manners were peculiar; his neatness of person not remarkable—from all accounts, he must have been quite Johnsonian. In speaking of quacks, he says: "Most monsters inhabit waste and desolate places; these vampires throng the cities and spread their lairs in the crowded resorts of mankind."

Dr. Francis styles him "An original and intrepid thinker, unwearied in toil, and of mighty energy, goaded by a strong ambition to excel in whatever he undertook, he generally secured the object of his desire, at least professionally. He was temperate in all his drinks, but his gastric powers were of inordinate capabilities. I should incur your displeasure, were I to record the material of a single meal; he sat down with right good earnest and exclusive devotion to his repast; auricular powers seemed now suspended. Dr. Mitchell long ago had said that the stomach had no ears." Dr. Romayne died very suddenly in June, 1817, after exposure to intense heat of the sun.

Every one will remember the great interest experienced in the

year 1874, December 8th, by the scientific world, in the observation of the transit of Venus. Scientists from all parts were sent, at great expense, to remote portions of the globe, to note the various appearances and phenomena presented. In 1769, the time of the last preceding transit, Colonial America did her best to verify or refute the prediction and observation of this event, made in 1639, by Jeremiah Horrox, the Lancashire astronomer. For this purpose, the American Philosophical Society appointed a commission to make the necessary astronomical observations, and prominent on the list was the name of Dr. Hugh Williamson, who published the result of their joint labors in the first volume of the "Transactions of the Philosophical Society of Philadelphia." They were republished in Europe with high commendations.

Hugh Williamson was born in Philadelphia in 1733. Was as liberally educated as was then possible in this country, and was a graduate of the first class which received its baccalaureate degree from the College of Philadelphia on May 17th, 1757. In 1759 he was licensed to preach the Gospel. He officiated as a minister for two years, but finding his profession neither congenial to his health or to his taste, he abandoned it and devoted himself to medicine. He pursued his studies chiefly in Europe; first in Edinburgh, and finally in Utrecht, where he graduated. On his return home, he both practiced medicine and engaged in literary pursuits. In 1773, in conjunction with Dr. Ewing, subsequently provost of the University of Pennsylvania, he started for England, hoping there to raise funds for an academy at Newark. The ship on which they had embarked lay in Boston Harbor, and just as they were about sailing, the famous "Tea Party" took place. Dr. Williamson witnessed it, and, on his arrival in England, was the first to report that occurrence to the Home Government. He was summoned before the Privy Council, and declared to that body, that if the coercive measures of Parliament were persisted in, nothing less than civil war would result. Lord North subsequently stated that Dr. Williamson was the first person who, in his hearing, had even intimated the probability of such an event. Williamson's exact words are reported to be these: "But if the measures were about to be pursued by Parliament against America, which out of doors are said to be intended, the time was not far

distant when my native country will be deluged with blood." "This hand," said he, "shall be guiltless of that blood." At this epoch occurred the somewhat exciting affair of the "Hutchinson and Oliver Letters," the former being the Colonial Governor, and the latter the Secretary of Massachusetts. "In these letters the character of the people of Massachusetts was painted in the most odious colors, and their grievances and proceedings misrepresented by falsehoods the most glaring and unfounded." Dr. Franklin having obtained possession of these "letters," sent them to America. The result was an intense explosion of indignation and animosity in New England, and scarcely less feeling was manifested in the mother country, but in the latter case against Dr. Franklin. He was charged with duplicity as a diplomat—was accused of "stealing the 'letters' from the man who stole them," and finally the excitement culminated in a duel between Mr. William Whately (the brother of the secretary to whom the "letters" had been addressed, and who was now dead), and Sir John Temple, between whom there was a bitter controversy in print, as to the manner in which Franklin became possessed of the "letters."

The "letters" were given to Franklin by Dr. Williamson, who obtained them by a *tour d' adresse*. In some manner he had learned that papers from Hutchinson and Oliver had been delivered in London, at an "office different from that in which they should have been placed." Assuming an air of official importance, he applied for them, and they were delivered to him by an unsophisticated clerk, and by him transferred at once to Franklin, though not by his own hand. Williamson left the next day for Holland. Dr. Franklin kept the secret inviolate, although he became thereby the object of almost unparalleled reproach and obloquy for a considerable period in England. These facts, as to Williamson's agency, are corroborated in Hosack's Memoir, by Bishop White and Gen. John Reed, of Philadelphia, and by John Adams, the latter of whom speaks of Williamson in the highest terms, dating their mutual acquaintance from 1773, and saying: "He gave us great comfort at that time by the representation he gave us of the ardor of the people in the American cause in the Middle and Southern States, especially in New York and Philadelphia." Williamson hardly completed his visit in Holland, when he received the news of the "Declaration of Independence." He was detained in

France by illness, but came home as soon as possible, bringing important despatches from the French Government. The ship on which he sailed was captured off the Capes of Delaware, but he escaped in an open boat, in company with one other passenger, and brought his dispatches safely to their destination. He was full of enthusiasm, but his health was too feeble to allow him to take an active part in the all-engrossing contest. He was advised to resort to a southern climate, and accordingly went to Edenton, in North Carolina. Here he soon became invigorated to such an extent, that he offered his services to the State authorities, and was at once assigned to the medical department as surgeon and physician-in-chief. After the battle of Camden, he went, under a flag, into the enemy's lines, against the remonstrance of General Coswell, who advised him to send some regimental surgeon. He replied, that the regimental surgeons such as he had seen, had refused to go, being afraid of the consequences; "but," he added, "if I have lived until a flag will not protect me, I have outlived my country, and in that case have lived one day too long." He went—was received—and proffered his services for the care of the wounded American prisoners, and was allowed to remain for two months; and such was his skill and success, that the British surgeons became very friendly to him, and sought his counsel in the serious illness of one of their own general officers. On his return to the American quarters, he immediately inaugurated a series of sanitary reforms, perhaps learned in some measure from the enemy. He caused the camps to be properly located and drained, paid especial attention to dietary regulations, and, in short, established much needed hygienic rules and system. So intimate and pleasant had been his relations with the North Carolinians, and so genial had he found the climate of the State, it is not surprising to find that, at the close of the war, he continued to reside in Edenton—a veritable Eden to him. For several years he was a member of the House of Commons of North Carolina, and finally most ably represented that State in the United States Congress, where he became noted for the honorable and strict discharge of his duties, and received the thanks of the legislatures of both North Carolina and Pennsylvania, for his services. Here also his friendship was sought by Thomas Jefferson, who subsequently wrote of his character and acquirements in the most pleasant manner. While

Williamson was in Congress, an Italian sculptor, Joseph Ceracchi, took many busts, and among others applied to Williamson, with what object the following letter evinces: "Mr. Ceracchi requests the favor of Mr. Williamson to sit for his bust, not on account of getting Mr. Williamson's influence in favor of the National Monument—this is a subject too worthy to be recommended—but merely on account of his distinguished character, that will produce honor to the artist, and may give to posterity the expressive features of the American Cato." This is the reply: "Mr. Hugh Williamson is much obliged for the polite offer of taking his bust. Mr. Williamson could not possibly suppose that Mr. Ceracchi had offered him such a compliment by way of a bribe, for the man in his public station who could accept a bribe or betray his trust, ought never to have his likeness made, except from a block of *wood*. Mr. Williamson cannot, in the meantime, avail himself of Mr. Ceracchi's services, as he believes that posterity will not be solicitous to know what were the features of his face. He hopes, nevertheless, for the sake of his children, that posterity will do him the justice to believe that his conduct was upright, and that he was uniformly influenced by a regard to the happiness of his fellow citizens and those who shall come after them."

Williamson was a ready and voluminous writer. He was the author of several monographs on professional subjects, and also of extended papers on scientific, philosophical and historical matters. Prominent among these may be mentioned his work on the Fevers of North Carolina, his history of that State, his theory of the Fascination of Serpents, his discourse on the Benefits of Civil History, his essay on Lightening Rods, and many papers on Navigable Canals. He was intimately associated with De Witt Clinton, in his great project of constructing the Erie canal to make a navigable water connection between the great lakes and tidewater, and was really one of the few—of the hundreds subsequently claiming it—in assisting the illustrious governor in carrying out his grand and successful scheme. He returned to New York about the year 1800, making thenceforth that city his residence. He took an active part in founding the Philosophical Society; was made a trustee of the College of Physicians and Surgeons, and one of the physicians to the New York Hospital. In this latter he surprised his col-

leagues by the energy, ability and punctuality with which, notwithstanding his advanced age, he discharged his duties. He died on the 22d of May, 1819, in his 85th year—another instance of longevity, although he had always been in delicate health. Dr. David Hosack, in his biographical memoir before the New York Historical Society—and to which the writer is indebted for most of the preceding notice—thus concludes his eloquent remarks: "Citizens of America! If piety, patriotism, talents and learning, and these all devoted to his country's good and the best interests of mankind, entitle their possessor to praise and gratitude, you will cherish with respect the memory of Hugh Williamson, whose name will be associated with those to whom we are most indebted for our country's independence, and the first successful administration of that happy constitution of government which we now enjoy." It may not be out of place to put on record here, one who, although a native of Maryland, and who served that State as a regimental surgeon through the war, subsequently held high social and political position in New York,—Thomas Tillotson, brother-in-law of Gen. Richard Montgomery, the hero of Quebec, and also brother-in-law of the famous Chancellor Livingston. He is believed to have accompanied the latter when he administered the oath of office to Washington, when he first assumed the duties of President, April 30th, 1779. Tillotson soon after became Secretary of State of New York, and did honor to his place, not only by his abilities, but also by his elegant and courtly manners. The temptation to mention other prominent physicians is strong, but time warns us not to trespass too much on the limits of your patience. This paper commenced with the death of Gen. Joseph Warren, M.D.; let it conclude, as far as individuals are concerned, with that of Gen. Mercer, M.D. Hugh Mercer was born in Scotland, 1720. He served as assistant surgeon in the battle of Culloden, in the army of Charles Edward, the unfortunate grandson of James I., historically known as the Young Pretender. The disastrous defeat scattered the adherents of the Stuart, and Mercer immediately took refuge in America, locating in Virginia. At the outbreak of the Revolution his old martial spirit and his hatred of the, to him, double oppressor, caused him to abandon his profession for that of arms, and through the influence of Washington he was made a brigadier-general. He displayed excellent soldierly

qualities, particularly at the battle of Trenton. He met with his death-wound at the succeeding action at Princeton. In attempting to rally his wavering troops he was felled to the ground by a blow from a musket, and was immediately surrounded by British soldiers, but struggling to his feet, drew his sword and attempted resistance. He was thrust through with bayonets, and was left for dead. His body was carried to a farm-house; he was resuscitated, lingered for a week, and died in the arms of his aid, Major Lewis, who was a nephew of Washington. His death was a great loss. He was very popular, and at his funeral in Philadelphia, it is stated that thirty thousand people followed his remains. In 1840, a monument to his memory was erected in the beautiful cemetery of Laurel Hill.

Enough has now been spoken of various persons, to give an idea of the material of which the medical profession was composed; let us now glance briefly at the effect upon it, both of the struggle in arms, and of the transition in the form of government. It has been said that medical science is always advanced by war. If this be true, it is a pleasing reflection for the non-combatant medical man who renders his services alike to friend and foe, to think that his duties are to mitigate the inevitable horrors of war, while, at the same time, the profession of his choice is elevated and improved. It is very certain that the army surgeons of the Revolution were most enthusiastically welcomed home when the army was disbanded. This came of course, to a certain extent, from the eclat which attached to every one who had been instrumental in shaking off the British yoke; but there were also other, and deeper, and stronger motives. Warm attachments had been formed between the soldiers and the surgeons; those at least of them who had discharged their duties well and faithfully. The intimacies and friendships thus established, were cherished, and in private life the influence which resulted therefrom was widely extended. Many of the surgeons had greatly profited by their army experience. They had not only seen much of varied disease, and had observed the effect of locality on health, but they had also been thrown in company with practitioners of shrewdness and intelligence from quarters more or less remote. The consequent interchange and comparison of views was almost necessarily instructive. At the commencement of hostilities, the greater part

of the army surgeons were but little instructed or practiced in the details and operations of surgery proper. They soon, however, acquired a dexterity and skill which was almost surprising, but explicable partly by the natural ingenuity of the American mind, but to a still greater extent from the fact that their actions were prompted by fervent patriotism, rather than by greed of gain or even professional renown, and this motive necessarily gave rise to earnestness, prudence and success.

Before the war, medical matters were extremely unsettled. There were few societies or organizations. In the expressive language of Smith's History of New York, it is written: "Quacks abound like locusts in Egypt, and too many have recommended themselves to a full and profitable practice and subsistence. This is the less to be wondered at, as the profession is under no kind of regulation. Any man, at his pleasure, sets up for a physician. No candidates are either examined or licensed, or even sworn to a fair practice."

The war separated the wheat from the chaff. Hardship, strife, and exposure had no attractions for the base and ignorant pretenders. If they were near the army at all, they were where their natural instincts took them, in the rear, as plunderers and camp followers.

It must, however, be admitted that in Colonial times, means and facilities for obtaining a medical education were totally inadequate to the needs of the great majority of the medical students. They were obliged to be content with such information as they could acquire from slightly educated practitioners, and from the few books to which they could obtain access. Of medical schools, there were but two in the land—that of Philadelphia, organized in 1765, Drs. Morgan and Shippen being the sole professors, the former of the "Theory and Practice of Physic," and the latter of "Anatomy and Surgery," to which he afterwards added "Midwifery," and the "Medical Department of King's (Columbia) College, New York," founded in 1768. Its organization was larger and more complete than that of the Philadelphia school. It had six chairs, filled by Peter Middleton, Samuel Bard, Samuel Clossy, James Smith, J. B. V. Tennant and John Jones. The Medical Department of Harvard University was not established until 1782, some fifteen years preceding that of Dartmouth, N. H. On ac-

count of great distance and absence of facilities for travel, and especially from extremely limited means, these schools were inaccessible to the greater number of medical students; those possessing means, finding it about as easy to cross the Atlantic as to go to, and live in, Philadelphia or New York while prosecuting their studies. The advantages and attractions of foreign schools took abroad the better provided and the better educated, and for a long time the home schools, although limited in number, languished. Immediately after the establishment of the Republic, the whole country was in a state of depression, war had exhausted all available resources. But a new spirit had been evoked; a nation had been founded, and the paralysis which seemed to threaten every industry was shaken off, and the dormant energy of a people was aroused. Science and art began to plant their roots in native soil, and a pride in, and a love for, home institutions was established and fostered. The aspirations of the good Dr. Morgan of Philadelphia, expressed in his first address, in these words, began to be realized: "Perhaps this medical institution, the first of its kind in America, though small in its beginning, may receive a constant accession of strength, and annually exert new vigor. It may collect a number of young persons of more than ordinary abilities, and so improve their knowledge as to spread its reputation to different parts. By sending these abroad duly qualified, or by exciting an emulation among men of parts and literature, it may give birth to other useful institutions of a similar nature, or occasional rise, by its example, to numerous societies of different kinds, calculated to spread the light of knowledge through the whole American continent, wherever inhabited." Morgan's vision was prophetic, and one of the grand schools of Philadelphia—"The Medical Department of the University of Pennsylvania"—thus humbly and hopefully founded, now flourishes in new, elegant and ample quarters, in proud power and vigor, numbering by thousands its alumni, and exerting its beneficent influence over an area whose confines are not limited to America.

Frequent reference has been made in this paper to the European teachers of the 18th century. Some further allusion to them may not be out of place. The modern critic is too apt to speak of them as mere theorists, and to dismiss them in strong words of condemnation. Such treatment is hardly just. That they were, in great

measure, theorists is not denied, but the fault was that of the age; the misfortune, that of the men. That they were well educated, earnest, enthusiastic, and many of them of unusual mental ability, no one will dispute. Unhappily, so-called philosophy ruled the period. Dogma and theory, rather than reason and analysis, were the basis of the various departments of science including that of medicine. On examination, however, we find that then, as now, and as always, that educated intelligence and common sense, when combined, ever point to the right and the true, however they may have been warped by prevailing ideas and influences. Sydenham and Boerhaave are historically fluidists. Yet the first was, in truth, a great reformer, and in these, his own words, confutes his accusers:

"It is," says he, "difficult to give a detail of the numerous errors that spring from hypothesis, whilst writers, misled by false appearances assign such phenomena for diseases as never existed but in their own brains. * * * * * If any symptom properly suiting their hypothesis, does in reality belong to the disease they are about to describe, they lay too much stress upon it, as if nothing more were wanted to confirm it; whereas, on the contrary, if it does not agree with their hypothesis, their manner is either to take no notice at all of it, or but barely to mention it, unless they can, by means of some philosophical subtilty, adjust it thereto and bring it in some measure to answer their ends."

Boerhaave wrote in reality a grand work of sound sense, philosophy, and satire of extravagant ideas, in his famous epigram—the sole contents of a large and elegantly bound volume—"Keep the head cool, the feet warm, and the bowels open." Cullen was perhaps the most pronounced of all the theorists—he was a solidist, *sang pur*. He must have been an extremely able, eloquent and attractive man, possessing that personal magnetism, which is so powerful in its influence, that it covers all faults by the dazzling rays of genius. His teachings were generally accepted in America, but were soon measurably renounced by Rush, Hosack and others, when thought and experience had taught them the errors of their great instructor. Hosack most emphatically disclaims all theories, and quotes Rush, so often maligned as a pure theorist, to this effect: "Principles are but the assemblage and classification of facts, and are the only safeguards to practice."

This was the age of Stahl and of Hoffman, who were ranked

in their day with Boerhaave. The name of the latter is often used in the familiar prescription for Hoffman's Anodyne, by those who know nothing of its originator. This was the age of Albert Haller, "the father of physiology;" of Morgagni, the pathological anatomist; of Erasmus Darwin, the naturalist and eccentric physiologist; of Astruc, the discoverer of the reflex action of the nervous system, and of Edward Jenner, immortalized by his discovery, and brave and persistent introduction of vaccine virus. To these names must especially be added those of John Hunter and Bichat, intellectual giants, who by their wonderful industry, patient research, and thorough analysis of facts bearing upon the formation of structure, and the origin and maintenance of vital force, barred theoretical speculation, and led the way to that process of reasoning by induction, which has ever since been followed by all true inquirers in the various departments of science.

Hunter was born a genius—he was great in spite of himself. He would have attained a commanding position in any sphere. In early life he gave no promise of his future eminence. He was neither steady or studious. His tastes were low, and his diffidence in expressing his ideas was so great, that he resorted to opium as a stimulant before even meeting a class of students. No sooner, however, had he fairly donned the professional harness, than the spark within him was fired. He abandoned the opium habit, and evolved that tireless industry, of which the Hunter Museum is to-day the enduring witness. During the greater part of his life he was in ill health. He had various attacks of pulmonary and cerebral disorder, which were probably of cardiac origin, and, later, suffered extremely from Angina pectoris, of which any excitement brought on a paroxysm. He was in the habit of saying that "his life was in the hands of any rascal who chose to annoy or tease him." Yet he faltered not—there was no pause in his labors, his researches and his writings. He died as he had predicated. At a meeting of the directors of St. George's Hospital, one of his colleagues made some remark which provoked him extremely—he left the room to conceal his anger, and fell dead at the door, in the arms of his friend, Dr. Robertson. He was in his day, beyond question, the most eminent surgeon, physiologist and anatomist of the age.

The mantle of Hunter was wafted across the English channel

and fell upon the shoulders of Bichat, the pupil and adopted son of the distinguished surgeon of Hotel Dieu—the celebrated Desault. Bichat took up the work where Hunter left it, with all his predecessor's zeal, energy and inspiration, and alas! with more than his feeble health. He was not a disciple or follower of Hunter—he was fully his equal in industry and originality; their paths were not the same, but they converged. Bichat finished his career at thirty-two, but he had so lived his brief span, that to him, with Hunter, belongs the credit of accomplishing the greatest reformation ever effected in medicine as a science. Many esteem his genius as greater than that of Hunter. E. Thomas Buckle, the critical English essayist, in his history of civilization in England, is most enthusiastic in his praise. "Between Aristotle and Bichat," says he, "I can find no middle man."

When Europe produced such men as indicated above, it would have been strange indeed had not every American student of medicine who possessed the means, sought information and professional inspiration from the lips and presence of those who were justly esteemed the scientific lights and authorities of the period, and that, on their return home, they should follow and disseminate their ideas and doctrines, was also to be expected. This is all changed now. The great schools and the great teachers of Europe exist as prominently now as they did then, perhaps more so; but republican America has also her institutions and instructors, and need not shrink in comparing them with those of the old world. No young man need now go abroad for medical information, except as regards a few specialties, and of these the number is daily lessening. It is not, indeed presuming too much to assert, that the long favors of past years are now in some measure reciprocated. Anæsthesia alone will weigh heavily in the balance of compensation, to say nothing of American chemical, physiological and gynæcological advances and discoveries. The nineteenth century is most emphatically *the* era of progress. The marvelous strides of each department of science have not only outstripped those of every preceding period, but have even surpassed the sum of them all, and medicine has fully kept pace in the race of advancement. Indeed, she has associated herself with so many forms of useful art, and made them so subservient to her purposes, that they now constitute an integral part of her being. Acoustics and optics, electro-

galvanism, and various dynamic agents are employed in investigation and demonstration with mathematical certainty and precision. It appears, indeed, as if no part of the body, no function of the system, were beyond the measurement and ken of the scientist. Hypothesis and conjecture have been superseded by analysis and fact; and yet every day demonstrates that we are but entering upon that course of discovery whose limits and extent are only bounded by infinity. Surely, with all the aids and accessories at our disposal, we ought far to eclipse our predecessors: but for this we should be thankful, not boastful.

Let our aim be so to live for the benefit of the present and of the future, that when the next summary of a century is made, equal praise, and no more blame, shall attach to our memories than to those of the zealous and earnest thinkers and workers of 1776.