



George G. Morton M.D.



J. C. Warren -



COMMEMORATION
of the
Fiftieth Anniversary

The First Public Demonstration
of Surgical Anaesthesia
at the
Massachusetts General Hospital
Boston, October, 16th 1846.

The Honour of your Company is requested
October 16th 1896 at Ten o'clock

Wm Sturgis Bigelow
For the Trustees

J. Collins Warren
For the Staff



SEMI-CENTENNIAL OF ANESTHESIA.

Addresses.

REMINISCENCES OF 1846.¹

BY ROBERT T. DAVIS, M.D., FALL RIVER, MASS.

Mr. President and Gentlemen:—Fifty years ago to-day occurred the first authentic, unquestionable, public exhibition of anesthesia during a surgical operation. As one of the few surviving witnesses of that memorable event, the most important in surgical, and one of the most important in human history, I have been invited to state my recollection of the incidents attending it, and very gladly comply with the request.

The operation in which the anesthetic was administered was performed in the surgical amphitheatre of the Massachusetts General Hospital, by Dr. John C. Warren, in the presence of a number of distinguished surgeons and physicians, including Dr. Hayward, the elder Dr. Bigelow, one of the wisest and greatest men who have adorned our profession with their multifarious gifts and accomplishments, and his celebrated son, not then arrived at the zenith of his fame. The Harvard medical class was also present. After some delay Dr. William Morton appeared with his apparatus, when Dr. Warren addressed the medical class, which had not been previously notified of the proposed experiment, stating in substance that there was a gentleman present who claimed that he had discovered that the inhalation of a certain agent would produce insensibility to pain during surgical operations with safety to the patient, and he added that the class was aware that he had always regarded that condition as an important desideratum in operative surgery and he had decided to permit him to try the experiment.

The patient, who was a young man, was suffering from a vascular tumor of the neck on the left side, occupying the space from the edge of the jaw downward to the larynx and from the angle of the jaw to the median line. Dr. Morton proceeded to apply to the lips of the patient a tube connected with a glass globe. After the inhalation had continued four or five minutes he appeared to be asleep, and the operation was commenced and completed without further inhalation of the ether. It consisted of an incision about three inches in length over the centre of the tumor, and through the skin and subcutaneous cellular tissue, and the removal of a layer of fascia, which covered the enlarged blood-vessels. A curved needle armed with a ligature was then passed under and around the tumor, and considerable compression was employed.

During most of the time occupied by the operation the patient gave no sign of sensibility, and appeared to be sleeping quietly. A short time before its completion he moved his head, body and limbs, and muttered words which I could not hear distinctly, but upon recovering consciousness he declared that he had suffered no pain but simply a sensation like scraping the parts with a blunt instrument.

The exhibition of the anesthetic was admitted by those present to be a complete success. The operating surgeon expressed his satisfaction in these emphatic

words: "Gentlemen, this is no humbug." From that time forward it became the practice to employ it at the hospital in all operations of importance.

Dr. Morton continued to administer it until it was proved that it could be easily and safely administered by others. The apparatus which he had used in the first and a few subsequent instances was soon abandoned as unnecessary and attended with possible risk, and a concave sponge was substituted. Sulphuric ether as an anesthetic very promptly passed into general use in Boston and throughout the State, and soon afterward in public and private practice in the large cities of other States, followed by its employment all over the country wherever scientific surgery was practised. Its fame crossed the ocean, and it rapidly became a necessary adjunct to surgery in Europe as well as here, and beyond, even to the utmost limits of civilization — it did not stop there, but among savage tribes and barbarous races in distant continents and islands it followed the footsteps of the explorer, the trader and the missionary on its divine errand of mercy to mankind.

It is impossible to estimate or comprehend the importance of this beneficent discovery. It safely and absolutely secures insensibility to pain, unconsciousness and immobility for long periods of time, conditions which are essential to the successful performance of prolonged and delicate surgical operations. We know the pain and terror which accompanied ordinary surgical operations before the advent of anesthesia. I cannot forget the impression produced by the case of a naval officer, upon whom a painful operation was performed at this hospital. The suffering was so great that he repeatedly screamed, and was quite unable to suppress the exhibition of his agony. He afterward apologized to the gentlemen present, and stated that he could not control the expression of unendurable pain he had experienced, and to which his haggard features and shaking frame bore undoubted testimony.

It was fitting that the discovery of anesthesia should be ushered to the world from this historic institution, dedicated to the service of humanity in the broadest spirit of charity, by the gifts of noble men and women. It was fitting, also, that the most eminent surgeon of his day in New England permitted the experiment and performed the operation. His name will be always honored and gratefully remembered by the profession and the public, for his courage and wisdom in assuming the responsibility of sanctioning what might have proved a hazardous experiment, whose failure would have compromised his great reputation. Such considerations had no terrors for him; he thought only of the lasting and limitless blessings which would follow success. These qualities he inherited from an illustrious ancestry. He was the son of a Revolutionary patriot and military surgeon, who was for forty years the most distinguished member of our profession in New England, and a nephew of the heroic Warren, who left a profession whose duty it is to save human life, to offer up his own in defence of American liberty in the first pitched battle of the Revolution, and whose name is on the lips of every schoolboy who has read the immortal story of our nation's birth. Blessed forever be the memory of Joseph Warren, who fell at Bunker Hill, and that of John Collins Warren, who aided so signally the renowned discoverer of anesthesia, to whom all generations will be

¹ An Address delivered October 16, 1896, at the Commemoration of the Fiftieth Anniversary of the First Public Demonstration of Surgical Anesthesia.

debtors, in conferring that unequalled boon upon his fellow-men.

Let me add that discoveries of such permanent and universal interest and importance are not accidental. Such an assumption would be an impeachment of the order of the universe, and the designs of Providence. They are the natural and indeed inevitable result of the progress of scientific thought and investigation. The eager quest of previously unknown facts which distinguishes our age reaches the very threshold of discovery, when some fortunate explorer takes a step in advance, ascertains the new truth and proclaims it to the world. The history of surgical anesthesia furnishes no exemption from this general law. In the noon of this grandest of the centuries the spirit of humane science whispered these glad tidings; the attentive ear of Morton heard the message and transmitted it to mankind. Thenceforth this matchless discovery was destined to bestow its blessings, so long as the race shall endure — wherever in all time human suffering cries aloud for succor or languishes in silent despair, and the Divine attribute of mercy, aided by the wisdom of science, flies to its relief.

SURGERY BEFORE THE DAYS OF ANESTHESIA.¹

BY JOHN ASHHURST, JR., M.D., LL.D., PHILADELPHIA.

Mr. President and Gentlemen of the Board of Trustees and Hospital Staff, Ladies and Gentlemen:—A study of the condition of operative surgery before the days of anesthesia reveals on the one hand a picture of heroic boldness and masterly self-control on the part of the surgeon, and on the other a ghastly panorama, sometimes of stoic fortitude and endurance, sometimes of abject terror and humiliation—but always of agonizing wretchedness and pain—on the part of the unhappy victim, man or woman, whose necessities required a recourse to the surgeon's aid. And from our vantage ground of a half-century's experience it is difficult for us to understand, why, with the constant and persistent efforts made by surgeons in past ages to lessen the pain of operations, and with the gradual but continuous accumulation of facts, showing that by certain agents pain could be temporarily abolished without danger, the eyes of all—patients as well as practitioners—yet seemed to be holden, and why, science and art working with a common object, if independently, though the whole world seemed to be trembling on the verge of the discovery, it yet was not until fifty years ago to-day that the crucial experiment was made in this hospital, and that surgical anesthesia became a glorious reality.

It is somewhat difficult to obtain an accurate picture of pre-anesthetic surgery from the patient's point of view, probably for a similar reason to that indicated by the lion in the fable, when he criticised the artist for always representing a combat between lions and men as terminating in a human victory—lions do not paint; and so, as operations are habitually reported by surgeons and not by patients, we read of the skill and intrepidity of the operator, of difficulties met and overcome, and of victories snatched as it were from the very jaws of impending defeat; but we hear little

of the tortures of the victim under the life-saving process, or, in an unsuccessful case, of the gradual subsidence of agonizing cries hushed in the silence of death. And yet we sometimes catch, incidentally, a side-glimpse of an operation from the patient's standpoint, and can thus form some faint notion of the shades as well as of the high lights of capital surgery in days gone by.

Those who are familiar with the history of British surgery seventy years ago will recall the famous case of "Cooper *versus* Wakley," in which the enterprising founder and proprietor of the *Lancet* was sued and mulcted, though in but nominal damages, for the report of an operation for lithotomy performed by Sir Astley Cooper's nephew, Mr. Bransby B. Cooper. The report opens with a quotation from John Bell, referring to "long and murderous operations, when the surgeon labors for an hour in extracting the stone, to the inevitable destruction of the patient," and then, having described in terms as graphic, as uncomplimentary, the operator's prolonged efforts to remove the calculus, and the words which showed his own anxiety and discomposure during the process, adds: "Such were the hurried exclamations of the operator. Every now and then there was a cry of 'Hush!' which was succeeded by the stillness of death, broken only by the horrible squash, squash, of the forceps in the perineum. 'Oh! let it go—pray let it keep in!' was the constant cry of the poor man." The patient was on the table nearly an hour, and, after a night and a day of great pain, "death" adds the reporter, "ended the poor fellow's sufferings, about twenty-nine hours after the operation." The fatal result appeared to have been due to peritonitis. It is, indeed, not an unheard-of thing that a surgeon's presence of mind should fail him in a difficult operation even at the present day; but at least the patient, unconscious through the blessing of anesthesia, does not know it, and this complication is spared, to the great comfort of all concerned.

The "pitilessness" which Celsus urged as an essential trait in the operative surgeon—though Percy and Laurent declare that this pitilessness was meant to be apparent only—was, indeed, before the days of anesthesia, a feature in the surgeon's character which impressed very strongly the public generally as well as those immediately connected with the operation; and it may be feared that there are not wanting, even at this nineteenth century's end, some who would echo the comment of the younger Pliny upon the operative surgeons of his time: "They make experiments through deaths, and no head is secure from them."

It is interesting to recall that Sir James Simpson, of Edinburgh, shortly after beginning his professional studies, was so affected by "seeing the terrible agony of a poor Highland woman under amputation of the breast," that he resolved to abandon a medical career and seek other occupation; happily, his intention was reconsidered, and he returned to his studies, asking himself, "Can anything be done to make operations less painful?" and, as every one knows, in less than twenty years became himself a high priest of anesthesia, and the introducer into surgical and obstetrical practice of ether's great rival, chloroform.

Not only did delicate women and tender children dread the ordeal of the surgeon's knife, but strong and brave men also recoiled from its use in horror: Buffon preferred death to relief from the agonies of calculus

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by the operation of lithotomy, and case after case is narrated by Monfalcon and other writers, in which men submitted themselves with the utmost calmness and fortitude to the hands of skilful operators, instantly falling into collapse after the first incision, and without undue loss of blood, quickly succumbing to the depressing effects of simple shock and pain.

No braver or more gallant gentleman ever lived than Admiral Viscount Nelson, and after his right elbow had been shattered by a French bullet in the assault at Teneriffe, he manifested the utmost courage, refusing to be taken to the nearest ship lest the sight of his injury should alarm the wife of a fellow officer whose own fate was uncertain, and when his own ship was reached, climbing up its side without assistance, and saying, "Tell the surgeon to make haste and get his instruments. I know I must lose my right arm, so the sooner it is off, the better." "He underwent the amputation," we learn from a private letter of one of his midshipmen, "with the same firmness and courage that have always marked his character," and yet so painfully was he affected by the coldness of the operator's knife, that though when next going into action at the famous battle of the Nile, he could after calmly finishing his meal say to his officers, "By this time tomorrow I shall have gained a peerage or Westminster Abbey," yet he gave standing orders to his surgeons that *hot water* should always be kept in readiness during an engagement, so that if another operation should be required, he might at least have the poor comfort of being cut with *warm* instruments.

But the most striking picture of which I am cognizant, showing the way in which an intelligent patient looked upon a surgical operation, is to be found in a letter written to Sir James Simpson by a friend, himself a member of the medical profession, who had had the misfortune to lose a limb by amputation before the introduction of anesthesia: "I at once agreed," he says, "to submit to the operation, but asked a week to prepare for it, not with the slightest expectation that the disease would take a favorable turn in the interval, or that the anticipated horrors of the operation would become less appalling by reflection upon them, but simply because it was so probable that the operation would be followed by a fatal issue, that I wished to prepare for death and what lies beyond it, whilst my faculties were clear and my emotions were comparatively undisturbed. . . . The week, so slow, and yet so swift in its passage, at length came to an end, and the morning of the operation arrived. . . . The operation was a more tedious one than some which involve much greater mutilation. It necessitated cruel cutting through inflamed and morbidly sensitive parts, and could not be despatched by a few strokes of the knife. . . . Of the agony it occasioned I will say nothing. Suffering so great as I underwent cannot be expressed in words, and thus fortunately cannot be recalled. The particular pangs are now forgotten; but the blank whirlwind of emotion, the horror of great darkness, and the sense of desertion by God and man, bordering close upon despair, which swept through my mind and overwhelmed my heart, I can never forget, however gladly I would do so. Only the wish to save others some of my sufferings makes me deliberately recall and confess the anguish and humiliation of such a personal experience; nor can I find language more sober or familiar than that I have used, to express feelings which, happily for us all, are

too rare as matters of general experience to have been shaped into household words. . . . During the operation, in spite of the pain it occasioned, my senses were preternaturally acute, as I have been told they generally are in patients under such circumstances. I watched all that the surgeon did with a fascinated intensity. I still recall with unwelcome vividness the spreading out of the instruments, the twisting of the tourniquet, the first incision, the fingering of the sawed bone, the sponge pressed on the flap, the tying of the blood-vessels, the stitching of the skin, and the bloody dismembered limb lying on the floor. Those are not pleasant remembrances. For a long time they haunted me, and even now they are easily resuscitated; and though they cannot bring back the suffering attending the events which gave them a place in my memory, they can occasion a suffering of their own, and be the cause of a disquiet which favors neither mental nor bodily health."

On the side of the surgeon, we find throughout the ages a constant effort to diminish the terrors of operations, and a continuous reprobation of the distressful, not to say cruel, modes of practice adopted by preceding generations. "Who can read without a kind of horror," cries Monfalcon, "the account of those frightful operations which were then practised? And yet the time is not very far distant from ours, when they lopped off a limb by striking it violently with a heavy knife; that time when they knew neither how to stop nor how to prevent hemorrhage but by burning the part whence the blood jetted with boiling oil or the red-hot iron; that time when surgeons armed themselves at every moment with pincers, with burning cauteries, and with a thousand instruments the representations even of which cause terror." Will it happen that on the occasion of some future anniversary our successors will speak of our operative triumphs with the same scorn and abhorrence with which writers of the present day sometimes refer to the great deeds of our surgical forefathers?

The belief that operations might be rendered painless and the hope that some means might be discovered by which this end should be accomplished appear to have been present in the minds of surgeons from the earliest periods. Witness the accounts of the Memphis stone, described by Dioscorides and Pliny, which Littré surmised to have been merely marble which by steeping in vinegar was made to give forth the fumes of carbonic acid; and of the mandragora, employed according to Theodoric, when mixed with other narcotics, by inhalation, and causing a sleep from which the patient could only be aroused by the fumes of vinegar; so profound was the stupor induced by this drug that Bodin assures us that under its influence a man submitted without consciousness to a painful operation, and continued to sleep for several days thereafter.

Vigo speaks of the whole body being "brought asleep by the smelling of a sponge wherein opium is," but warns his readers that the practice is dangerous because the use of opium is sometimes followed by gangrene. In his work on "Natural Magic," Baptista Porta speaks of a volatile drug, kept in leaden vessels, which produced sleep when applied to the nostrils, and Perrin suggests that this may actually have been ether or some other of our modern anesthetic agents.

Others endeavored to prevent the pain of operations by mechanical means. The Assyrians, Hoffman

assures us, compressed the veins of the neck, apparently by tying a band around the part, before practising circumcision, and compression of the carotid arteries was suggested as an anesthetic measure in more modern times by Dr. Fleming; while still more recently Dr. Augustus Waller has shown that insensibility may be induced by compressing the cervical vagi. Garroters have indeed clearly shown, as remarked by Simpson, that a person may readily be choked into unconsciousness, but it is not surprising that their mode of practice has not commended itself to surgeons for general adoption.

Compression of the limb by a fillet or tight ligature, before amputation, is referred to by Paré as a mode of alleviating the suffering which attends that procedure, and Benjamin Bell tells us that "in amputating limbs, patients frequently desire the tourniquet to be firmly screwed, from finding that it tends to diminish the pain of the operation." The same writer refers approvingly to the suggestion of Mr. James Moore, that pain should be controlled by the application of a screw compressor to the principal nerve of the part, but surgeons generally appear to have agreed with Monfalcon that the inconveniences of such an apparatus fully equalled its very slight advantages.

Mental pre-occupation was sometimes sought as a means of preventing pain. Richard Wiseman found that soldiers dreaded the loss of a limb much less if it was removed immediately, while they were "in the heat of fight," than if the operation was postponed until the next day; "wherefore," he says, "cut it off quickly, while the soldier is heated and in mettle"; and Renaudin recalls the case of the amiable Dolomieu, who, exposed to the pangs of starvation in a Neapolitan dungeon, measurably alleviated his own distress by engaging in the composition of a Treatise on Mineralogy, while his unfortunate servant and fellow-prisoner, who had not the same intellectual resources, was hungry enough for both.

But the presence of pain was not the only evil dreaded by our predecessors in attempting important operations: the great risk of fatal accident from some involuntary movement of the patient was constantly present to the mind of the conscientious surgeon. "How often," says Dr. Valentine Mott, "when operating in some deep, dark wound, along the course of some great vein, with thin walls, alternately distended and flaccid with the vital current — how often have I dreaded that some unfortunate struggle of the patient would deviate the knife a little from its proper course, and that I, who fain would be the deliverer, should involuntarily become the executioner, seeing my patient perish in my hands by the most appalling form of death! Had he been insensible, I should have felt no alarm." So greatly was the responsibility of using the knife felt by the best-informed surgeons of pre-anesthetic days, that many, like Haller, distrusted their own manual dexterity, and declined to perform operations which, while recognizing their necessity, they felt should be left to other surgeons differently constituted from themselves. Would that a little of this Hallerian diffidence might affect some tyros of the profession in our own day, who, without the slightest preliminary practical training, do not hesitate to undertake the most hazardous procedures, and seem to consider themselves disgraced if they cannot count one or more abdominal sections, even if terminating fatally,

within the accomplishments of their first year's practice!

Coming down to the days more immediately preceding the date of the great discovery, we find that opium and alcohol were the only agents which continued to be regarded as of practical value in diminishing the pain of operations, though the attendant disadvantages of their employment were of course recognized. "Previous to every painful operation," says Dorsey, "a dose of laudanum should be administered." "I was in the habit," says Dr. Mott, "of giving opiates freely before the introduction of anesthetics, both before and after operations, . . . and opium and its preparations are the only anodynes well adapted to surgical use. No substitutes are worthy of confidence." Demme tells of a woman, who, under the influence of opium, submitted to amputation at the hip-joint, and emitted but a single cry; and I myself recall distinctly patients, who, in the hands of that excellent surgeon, the late Dr. George W. Norris, had limbs amputated with almost no manifestation of pain when well charged previously with opium and whiskey. Alcohol, pushed to the point of producing intoxication, was employed as an anesthetic by some surgeons, and Dorsey tells us that Dr. Physick, following Richerand's suggestion, used it successfully for its relaxing effect in a rebellious case of dislocated jaw, in which on account of the patient's "extreme debility" it was not thought prudent to resort to the usual remedy — "blood-letting *ad deliquium animi*."

Meanwhile facts were accumulating, the significance of which we can now plainly recognize, but which excited no attention at the time. Sir Humphry Davy had, in the very early days of the nineteenth century, experimented with nitrous oxide gas, afterwards employed by Horace Wells, and had in so many words suggested its use as an anesthetic in minor operations; its power of preventing the sensation of pain was well known to many persons, and it was the custom at some of our medical schools — at the University of Pennsylvania for one — for students to breathe the "laughing gas," as it was then called, for diversion. The use of ether by inhalation had been still earlier recommended by Beddoes, Pearson and Thornton, as a remedy for certain diseases of the lungs, and in 1805 your own Warren had employed it "to relieve the distress attending the last stage of pulmonary inflammation." Its intoxicating qualities, when inhaled, and its power, when in sufficient concentration, to produce stupefaction, had been recognized, in 1839, in Pereira's well-known treatise on *Materia Medica*, and were quite familiar to American medical students; and it is no doubt possible — I certainly have no wish to deny it — that in isolated cases it may have been used as a means of relieving pain by individual practitioners, as by Dr. Long, of Athens, Georgia, whom Perrin, with that happy disregard of the geography of all countries except their own, which is characteristic of French writers, calls the "Greek physician."

But yet — and yet — surgeons went on, in every country, cutting and burning, and patients went on writhing and screaming, until on the sixteenth 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.

WHAT HAS ANESTHESIA DONE FOR SURGERY?¹

BY DAVID W. CHEEVER, M.D.

WHAT victim of surgery, who, under ether, sinks into a calm and dreamless sleep, during which his abdomen can be cut open, his bowels taken out, handled and replaced, his nerves cut, his veins or arteries tied, and his skin sewed up, and who is made so absolutely oblivious as to ask on awakening, "Are you not ready to begin?" but concedes with gratitude, on realizing the result, that this is the greatest discovery ever made for the happiness of mankind?

In proportion as anticipation is worse than reality, must be estimated the mental relief brought about by anesthesia.

To dread the knife, to shrink from an operation, to fear pain, is there a more universal instinct? It is next to the vital instinct of self-preservation. What iron will, what previous agony must induce that fortitude which can bring the sufferer to lie down and be cut without stirring!

All this is annulled by anesthesia. How much mental shock is thus removed!

What is surgically termed the "shock of the operation," or the disturbing effect on the nervous system of violence done the flesh and nerves, is also largely diminished. Anticipation is done away with; pain is prevented; shock is reduced.

The patient consents to operation earlier; he does not wait until life becomes unbearable, but calmly contemplates surgery as the natural and easy channel of relief. Hence his chances of benefit from an operation are much increased; he averts destructive processes, shortens disease, is more likely to recover. So much is done for the patient.

To the surgeon anesthesia gives the patient asleep, motionless, senseless. He need not hurry; he need not sympathize; he need not worry; he can calmly dissect, as on a dead body; heedful only that the etherizer is competent, the breathing and pulse watched, the operation not prolonged beyond the verge of exhaustion.

The surgeon, then, can do better work; he can be more careful; he can pause and consider; he can choose his steps; he can be deliberate, if not dexterous. He can even summon the aid of the pathologist and his microscope, who, in ten minutes, while the patient sleeps, can decide the nature, the innocence or malignancy, of the tumor he is removing.

It is also just to believe that the moral fibre of the surgeon is less strained; judicial callousness is no longer called for; he need not steel his heart, for his victim does not feel.

For surgery and for diagnosis, anesthesia has done even more. It has enlarged its domain by rendering justifiable and even promising severe and delicate operations.

The tyranny of misguided conscience drove the inquisitors of the Middle Ages to rack the joints apart: so, too, the surgeon was formerly obliged to use the rack to tire the muscles and disrupt the capsule, to reduce a dislocation. Now, anesthesia relaxes the muscles, and manipulation rolls the bone into the socket.

Homeric strength was needed to bear Homeric

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surgery. Strong men and calm women endured desperate mutilations and recovered. But at what a cost!

Such surgery must necessarily have been largely traumatic, or the result of emergencies threatening death if not relieved.

It is not too much to say that all the finer work of plastic, conservative and abdominal surgery dates from the discovery of anesthesia. It could not have been done before. Neither surgeon could persist, nor patient endure it. Perhaps one thousand ovariectomies were done by Sir Spencer Wells before asepsis was much practised, but they were all done since anesthesia was known. The tedious details in a radical cure of hernia were mostly mechanical before anesthetics; and the operative measures have been adopted since.

Formerly the surgeon was estimated for dexterity and quickness. Now he is esteemed the great surgeon, who to judgment adds dexterity, and to dexterity patience.

Anesthesia was the necessary precursor of asepsis. Without the former the latter would not be what it now is. Even if antiseptic agents were used in dressing wounds, the operations which caused the wounds could not have been done aseptically without anesthesia.

The essence of asepsis is detail, tedious rules and precautions, prolonged and accurate dressings. All this requires time, immobility, unconsciousness. To stitch the most delicate tissues with accuracy, to match the bowel or bladder so that it will not leak, how could this be done on a conscious and quivering patient?

First, anesthesia; second, asepsis. They must be inseparable for success.

All visceral surgery, which deals with the great serous cavities, and which constitutes the proud distinction of modern surgery, depends on anesthesia first, and on asepsis afterward. The latter is as beneficent a discovery as the former. Hand-in-hand, equal benefactors, anesthesia and asepsis, march calm and triumphant. Together they have altered life, enlarged what is worth living for, postponed death. May we not claim now as fulfilled for surgery that old saying which our fathers regarded as the acme of success and skill in curing the patient: *Tuto, cito, et jucunde* (Without delay, without danger, without pain)?

Is there no reverse to this brilliant picture? There is if we allow it; but most dangers and mischances can be averted by care. The danger of immediate death from anesthetics is no greater than the ordinary risks of life in the daily pursuits of civilized communities. The use of power, whether steam or electric, surrounds the life of cities with hourly perils; and the chance of succumbing under the inhalation of ether is no greater than the risk of a street accident or a railway journey. Of those who inhale sulphuric ether, about one in fifteen thousand die. I formerly believed that chloroform was ten times more fatal than ether; larger statistics have modified that opinion, and it may now be fairly stated to be five times more dangerous, or of those who inhale chloroform about one in three thousand die.²

Since neither anesthetic is given to the well and sound person, but always to the sick or injured, we cannot eliminate the chances of death from inhalation,

² Appendix, I.

which may be increased by infirm hearts, lungs or kidneys. The patient is forced to take those chances. And yet, how few perish from these pain-dispelling agents!

An elementary alcohol, sulphuric ether acts like alcohol in its effects when inhaled. A quickened pulse, a stimulated heart, a vivid capillary blush, congestion of the brain, mental exhilaration, confusion, intoxication, a lethargy which is not lethal.

Ether is fatal unless breathed with the oxygen of atmospheric air; nay more, provision to have the carbonic acid exhaled must also be provided for. An uncovered sponge for an infant, and a sponge covered with a porous towel for the adult, are still among the best—and surely the safest—inhalers: rigidity, lividity, stertor, only emphasize the need of more air.

Chloroform affects the heart more suddenly and surely than the respiration. It is a heavier gas, pleasant to take, less bulky, quicker in producing unconsciousness, less irritating to the lungs, less followed by vomiting; but when fatal, suddenly fatal, without premonition. Its primary effect is depressing; the skin is cool and pale; the pulse not stimulated; sleep follows speedily.

The distinction of danger from safety in the inhalation of both anesthetics may be described in the words of Shelley:

“How wonderful is Death,
Death and his brother Sleep!
One pale as yonder waning moon,
With lips of lurid blue;
The other, rosy as the morn
When throned on ocean's wave,
It blushes o'er the world.”

A secondary danger is from prolonged anesthesia. Sulphuric ether inhaled the first half-hour is stimulant; the second half-hour, tolerable; the third half-hour, depressant. The pulse creeps up from the eighties to the one hundred and twenties; the skin cools; color fades; sweat rains from the surface; respiration becomes shallow or sighing; all signs of exhaustion, collapse and death. Intent on a delicate, and as he thinks, necessary and final step in his operation, the surgeon may persist too long, and the patient sink too low for recovery. This danger is emphasized by the delays of aseptic precautions, of minute embroidery of serous membranes with sutures, of too long an exposure of the vital cavities.

A common, but not constant, effect of the inhalation of ether, and of chloroform to a less degree, is nausea and vomiting, both while asleep and after waking. If only of brief duration, its only danger is in disturbing the wound, as the humors of the eye or the ligatures on the pedicle of an ovarian cyst. This danger is, however, to be counted. If of long duration it marks a condition of secondary shock, which is often fatal.

No agent has been found to be a specific to prevent vomiting. An empty stomach is an essential in inhaling anesthetics. As remedies, the bromides, the subcutaneous injection of morphia and atropia, the inhalation of oxygen have each given a certain success. Much vomiting may be prevented by giving ether only to the verge of insensibility; not filling the blood too full of the vapor; taking the ether off permanently as early as possible; for unconsciousness persists for fifteen to twenty minutes after apparent rousing, and the patient's motions and moans are automatic, and not remembered after waking.

Sulphuric ether irritates the mucous membrane of the bronchi and minute air-passages. We know how it congests the eyes if it runs into them. It provokes a large and sometimes dangerous, secretion of sero-mucus fluid from the bronchi; this gets churned up with air, and fills the throat with a bubbling fluid like soap-suds. It is both annoying and dangerous. Chloroform causes much less of this condition.

Acute bronchitis, pulmonary edema, broncho-pneumonia (but not true lobar-pneumonia),³ may follow, and turn the scale against the patient. It is claimed that a previous injection of atropia will often dry the throat and bronchi, and avert this excessive secretion. Light inhalations, plenty of air, watchfulness to swab the throat, care to remove the ether early, are the best remedies.

Both sulphuric ether and chloroform congest the kidneys, and produce albuminuria in more than one-half the cases.⁴ This albuminuria is usually of short duration; but one can readily see that a diseased kidney might be overwhelmed by it, just as a feeble heart would succumb to chloroform, or diseased lungs to an increased bronchial secretion. Bright's disease, diabetes, any inflammation of the air-passages, pleuritic effusion, acute bronchitis, valvular disease of the heart, croup,—all are unfavorable conditions for an anesthetic.

The thermo-cautery about the face demands chloroform.

If in spite of these unfavorable conditions only one person in fifteen thousand succumbs to the inhalation of ether, we may conclude that we shall not find a safer agent to produce unconsciousness, though we may a more agreeable.

APPENDIX.

I. — MORTALITY.

Combined statistics of Gurlt, of Berlin, and Juillard, of Geneva:
Chloroform. — 691,319 cases, 224 deaths. One death in 3,082 cases.
Ether. — 341,058 cases, 23 deaths. One death in 14,828 cases.

II. — KIDNEYS.

Examination of 50 cases, before and after ether. Urine filtered, and nitric-acid test used. In 36 cases out of 50, ether produced albumin, or increased that already existing. But the German authorities believe that chloroform irritates the kidneys more than ether. Albumin after ether was slight in amount and of short duration.
Second Lyman Prize for 1894, John Bapst Blake, M.D. Boston Medical and Surgical Journal, vol. cxxxii, p. 560.

III. — LUNGS.

Prescott believes that ether cannot produce true lobar pneumonia. He gives only two cases in about 40,000 ether inhalations.
Boston Medical and Surgical Journal, March 28, 1895, vol. cxxxii, No. 13, p. 304, W. H. Prescott, M.D.

ANESTHESIA IN OBSTETRICS.¹

BY J. P. REYNOLDS, M.D.

In the welcome that greeted anesthesia in this city, fifty years since, its promise to women in labor was not overlooked. Oliver Wendell Holmes, recounting its blessings, rejoiced that it lifted “the primal curse”; Walter Channing, our honored first professor of midwifery, devoted an important volume, his “Etherization in Childbirth,” to its early triumphs. To-day, after the half-century, it is my glad office to lay before you the priceless worth of anesthesia in obstetrics.

In operative obstetrics, in the high and difficult use

¹ An Address delivered October 16, 1896, at the Commemoration of the Fiftieth Anniversary of the First Public Demonstration of Surgical Anesthesia.

³ Appendix, III, Dr. Prescott.

⁴ Appendix, II, Dr. Blake.

of instruments, in the introduction of the hand for version and extraction, anesthesia resembles at all points that of the graver procedures of general surgery. It brings the same admirable results: a patient in blissful unconsciousness; an operator delivered from all concern for another's suffering, with ample time for exact and thorough diagnosis, and free to work with all desired accuracy, delicacy and caution. In obstetrics there is often a farther gain of great moment: loosing the formidable grip of the uterine muscle. Mention must also be made of the induction of premature labor; in which the power of safely maintaining for many continuous hours profound etherization is rapidly securing for the method of passive manual dilatation a deserved preëminence. It may be added, that five minutes only of deep anesthesia, rapidly induced, prove at times no mean resource in softening the thin, wiry edge of a tardily dilating uterine mouth. After profound anesthesia during delivery, increased watchfulness against hemorrhage is always wisely enjoined; but where the precautions which are in all labor indispensable, are duly enforced, any added risk is perhaps rather inferred than proven.

The service of ether in puerperal convulsions is still more striking. Used in the manner now to be described, it prevents any new seizure. An eclamptic patient is brought with all possible rapidity to complete unconsciousness. During many consecutive hours this is firmly kept up, always under strictly professional care: there can be no delegation of the physician's authority to any hands less qualified than his own, not even to those of the best trained nurse. An utterly passive condition is secured; and then, on the least restlessness, agitation, indication of pain or uneasiness in any region; above all, at any slightest tremor of an eyelid, or other known premonition of a fresh attack; the remedy must be instantly pushed to full, snoring anesthesia. No evil effects will ensue from continuing this state for many successive hours: and these can seldom be fewer than eight or ten. Under anesthesia food is, of course, withheld. It must be distinctly understood, that such an employment of ether has no power of cure. In exhibiting it we absolutely prevent fresh paroxysms, each of which strikes a new blow at the brain and nervous centres, and we gain at the same time the all precious opportunity for treatment. This latter must be meanwhile actively pressed: first and foremost, unless already accomplished, the emptying of the uterus; to temporize with that does no good whatever, and may bring incalculable harm. Improvement in the renal condition is the best proof of amendment. When to withdraw the ether is always a most anxious problem; steady continuance of it being in all doubtful cases the far safer alternative.

In making these strong assertions in regard to etherization in eclampsia I weigh well my words. Carelessly or ignorantly followed, they may work mischief. But the subject is of extreme importance. In my results there has not been the slightest variation; and I am confident that I do not stand alone. The time has come to present these views to the medical profession, and to press their general acceptance.

For the prolonged use in eclampsia just described, and even for that already suggested in the induction of premature labor, I dare not approve chloroform.

Would that any words of mine could bring home, as I feel it, the inestimable blessing of ether in all

labor, silence groundless excuses for its neglect, and so rouse professional interest that no one should lightly forbid it to any woman in childbed! "Bless God for ether," has burst from the lips of thousands on thousands of suffering women. It might well be made the cry of countless thousands more.

In normal labor due anesthesia is free from every shadow of danger. The alleged after-evils do not exist; on the contrary, the gain in safety even outweighs the expressible comfort and relief. It is indispensable that the anesthetic be administered only within the limits now to be laid down; on this is conditioned the truth of all that follows.

Ether, when properly given in normal obstetrics, never contents the patient. She incessantly cries for more, and if in first labor, indignantly claims to be forthwith put asleep, and to know nothing till after the birth. The anesthetic is allowed only during the uterine contraction; the time of positive pain. In the interval it is withdrawn. Consciousness should then return, and there is often intelligent speech. Ether may be given at any period, and might be continued from the beginning of labor to its close. There should be here no question of the so-called "stages" of labor. One only rule governs its use. Whenever the attendant sees that the woman's endurance of pain begins to tell upon her patience and courage, the moment for ether has come. It is to be kept up so long as this need lasts; no longer. In an appreciable minority of cases, a mother who in her early suffering has been clamorous for relief, will herself, when the so-called "real" pains appear, and conscious progress is made, put it away: "I can do without it now." On its first employment, a lull often comes in the uterine action, the patient sinking into a much-needed repose; to which soon succeeds a yet more vigorous advance. The extremely rare case in which no such renewal occurs must plainly forego anesthesia. It should be noted, that in the earliest pains some careful observers hold that chloral in suitable doses gives still greater relief.

With even these limitations the value of ether can hardly be overestimated. It is something, that in the distress a good and decorous deportment is no longer enjoined; it is everything, that tender hands can now, as in other nursing, solace each access of suffering with positive help; but far, far beyond this, that we thus uphold in the patient that vital resistance which mental and nervous tension and the long endurance of pain, more than all other causes combined, destroy; that which soothes becoming likewise a chief guarantee of safety; a help against hemorrhage.

Unhappily, a frequent resort to ether may not be asked from lying-in hospitals and the great public charities. These establishments burdened with enormous and ever-enlarging cost for the first needs of the destitute — shelter, food, warmth, nursing — cannot add the great increase of responsible attendants which general anesthesia would require. But even for private practice, anesthetics are not in simple labor extensively used. The medical profession does not accept what has just been said of ether. Its benefits are sturdily denied. Men declare that it promotes flooding, that it wastes important time, that it presents them, in place of a woman bearing her pain with dignity and fortitude, a creature regardless of appearances and only clamoring every moment for ease.

These charges come mainly, I believe, from those who, under varying motives, content themselves with

a tardy, perfunctory, or even deceitful, resort to ether; "refusing it," as women sometimes say, "when we most need it, and allowing it when we could most easily do without it." Later, one may readily ascribe to the anesthetic, which has in no true sense, been tried, those common disasters of childbed, which its proper use would largely ward off; and these assertions, once made, supply a ready excuse for that numerous, and it is to be feared, increasing class who do not so much oppose ether as willingly evade and neglect it.

We have seldom possessed an accoucheur of wider experience, or a teacher of greater gifts of tongue and pen, than the late famous Fordyce Barker of New York. Several years ago, I listened with eager interest as he, in this city, before the American Gynecological Society, deeply condemned the growing disuse of ether in obstetric practice. "Through a long series of years," he said, "I have rarely attended labors without ether. I have never seen from it any evil effects. Especially has it not caused a tendency to hemorrhage. Indeed, I should say, that instances of flooding that I have seen have rather occurred in cases where ether had not been employed." Years have but deepened my conviction of the exact truth of the words that I then so heartily welcomed.

The time of an obstetric attendant is no longer his own; he may not condemn the extra half-hour that etherization will now and then compel. His approval or his dislike of his patient's attitude in her distress is of trivial importance. Objections like these have no weight unless urged by the sufferer. She was never known to advance them.

The charge that anesthesia increases flooding cannot be thus lightly set aside. As matter of opinion it has been to-day claimed: that the due use of ether saves the mother's courage and strength; that it preserves, not breaks down, uterine contractile power; that it thus lessens the risk of hemorrhage. It will be found that clinical facts do not belie this theory. They wait for other observers as they did for Barker. Those in search of them are prayed to make trial of ether in all confinements, not, indeed, forgetting the due limitations, but ungrudgingly, thankfully, gladly.

One remembers tender hearts that doubted their right to evade, under ether, heaven-sent pain. How marvellously the words graven beneath our cherished Ether Memorial send down, in reply, their adoring praise:

"This also cometh forth from the Lord of Hosts, who is wonderful in counsel and excellent in working."

THE SURGERY OF THE FUTURE.¹

BY CHARLES MCBURNEY, M.D., NEW YORK.

WE worship to-day at the shrine of the Goddess Anesthesia, whose gentle sway over the surgical world of all civilized countries has so beneficently displaced the reign of terror which existed only two generations ago. What anesthesia has done for surgery has been already most eloquently told, and we all realize that without it the best of modern work would be impossible.

It seems but yesterday, and yet it is already a matter of history, that the wonderful discovery of the aseptic

treatment of wounds was given to us, through whose agency countless thousands of human lives have been preserved.

Through these two discoveries surgery has become a gentle art: for the agonies of operations, and the fatal diseases of wounds, have given way to a painless sleep, and an awakening to a safe recovery. And bacteriology, which in its infancy gave birth to aseptic surgery, has penetrated with its brilliant light a darkness which our predecessors believed would last forever.

So generous, indeed, has the recent past been to surgery with gifts which make our science rich almost beyond belief, that the future may well be modest in telling us what it will do. It would almost seem as if the toilsome ascent had been accomplished, and as if the future could hold for us no obstacles that could tax our powers. That such a comfortable view is not shared by the ever-active surgical worker and his numerous collaborators is fortunate, and we are thus assured that difficulties, perhaps not so large as those already conquered, but both grave and numerous, will, by increasing effort, be swept away and relegated to the past.

It seems to me that in the immediate future the greatest surgical victories are to be won by the aid of bacteriology, which has already unlocked so many mysteries. Through it diphtheria and tetanus have been brought within the list of frequently curable diseases. Why should we not soon be able to say even more of general sepsis, tubercle and cancer? We have already reached a high degree of perfection in preventing the entrance of sepsis through the surgical or the accidental wound; but, given a case where sepsis has already deeply invaded the body, through whatever point of entrance, and we are well-nigh helpless. We may empty an abdomen of pus, and even remove the cause of the disease, but we know nothing in regard to overcoming the sepsis already widespread throughout the body. Is it not in store for us that the discovery will soon be made by which we shall be able to destroy the sepsis-producing organism, no matter what its source, no matter how widespread? I believe it is, and that we will, in the not distant future, be able to render the body immune to the existence of sepsis even of internal origin.

All of the general surgeons, and many of the special ones, are devoting a large amount of their time to the treatment of tubercle. Operative surgery has attacked it very successfully, but we need the help of the bacteriologist and of the physician to enable us to prevent its recurrence and to treat it in many localities. Surely the day is close at hand when the surgeon's knife, which so readily removes the products of tubercle, will be aided by the remedy which destroys the bacillus itself.

Cancer in all its forms is still our worst enemy. Operative surgery has done much, very much, to overcome it, aided by greatly improved diagnosis, and by means of more scientific and more radical operations. But the discovery of the true nature of the disease, the solution of the question as to whether it owes its existence to a living organism, and therefore one capable of death, or not, are still in the hands of the future, and most eagerly awaited by all of us. The best energies of the bacteriological and the surgical world cannot be devoted to a worthier object. But the future of bacteriology is, and ever will be, in the

¹ An Address delivered October 16, 1896, at the Commemoration of the Fiftieth Anniversary of the First Public Demonstration of Surgical Anesthesia.

hands of the most brilliant men, and surgery is destined to achieve many of its greatest triumphs through the aid of this ever-growing army of invaluable co-workers. With their help will the aseptic making and treating of wounds be brought to a far higher state of perfection than even the elevated one of the present day, and the exact reasons for disturbances in wound-healing, some of which are still but partially understood, will become part of the knowledge of every true surgeon.

The possibilities for discoveries of enormous value to both the theory and the practice of surgery, through more perfect study of the blood, are certainly very large, and are already foreshadowed by what has been so recently learned in regard to the blood-corpuses and the organisms of disease which invade and develop in the blood current. We may confidently expect through this means a very exact, and, what is of the utmost importance, a very *early* diagnosis, in many surgical disorders, which we now first appreciate at a stage too late for efficient treatment.

When one considers the very great value of the recent addition to our resources, the infusion into the blood-vessels of hot saline solution, which has so beautifully supplanted the difficult and dangerous process of blood transfusion, one grows impatient for the day when, at the same moment disease shall be drained from the body through one opened vessel, and life and health poured in through another. Some of us will see the day when death as a result of hemorrhage will be always avoidable.

In spite of the large contributions that have been made by scientific workers during the last few years, it may fairly be said that we have been living in an age of operative surgery, the growth of which has excited the interest and admiration of all classes of men.

The public at large, and all branches of our profession, have become deeply infected with the idea that there are almost no limits to what can be done in the cure of disease by a skilful surgeon; and the belief is much too widespread that almost any professional man, with a little knowledge of antiseptics, may properly practise surgery. This exaggerated feeling of confidence is the natural sequel to the discovery of a sepsis, which, with its incalculable benefits, has scattered some harm. Every region and organ of the human body has been investigated by the operating surgeon, and far be it from me to say that this has not been wise and necessary. Conclusions cannot precede experience; and it has required courage, hope, and even blind faith, to explore and learn what we may accept, and what we *must* discard.

The operating surgeon of the future will have a most important and delightful task. Proud of his ability to do any operation, and to secure a perfect wound-healing with unfailing regularity, he will know when to withhold his hand. He will sacrifice his ambition to multiply the number of cases he has operated upon, and will devote his energies to increasing only the number of those he has actually cured of disease. He will know better than we do who are the actually moribund, and he will leave them untouched in the hands of the priest.

He will not be tempted by the plea that the patient must die as he is, and that therefore he should rightly be operated upon. He will not attempt to cure with the knife the poor little microcephalic child or the

advanced case of carcinoma of the stomach, uterus, or larynx. Our knowledge, acquired by much labor and sacrifice, will be his at the outset; and the errors, which we have made through over-enthusiasm, will excite not his contempt, but his gratitude.

He will have at his disposal the large experience of the surgeons of to-day, and, unhampered by the views held in the pre-antiseptic era, he will draw conclusions and deduce principles sounder and clearer than our own.

We may confidently look forward to vastly improved diagnosis of surgical disease, more especially such as will enable the surgeon to attack pathological processes in their *incipiency*. Especially in cases of malignant disease is there much to be desired in this direction. Great advance has been already made in the wide removal of infected areas, and of the channels through which malignant disease is carried to other parts of the body. How much more efficient must such measures be when applied at the very beginning of a cancer! Perhaps we are justified in looking forward to such a development of the Röntgen light, that the surgeon will be able to appreciate the location and character of all neoplasms while they are still young enough to be radically curable by operation.

The future surgeon will enjoy a much closer and more intimate relation with his brother the physician than has ever existed between them before, for what what belongs to medicine and can be cured by surgery only, will be far better appreciated by both surgeon and physician than it is to-day.

Few operations will then be done as a last resort, for the only remedy that can cure in a given case will be eagerly demanded by the one, and willingly applied by the other, at the beginning of disease.

Above all, Mr. President, will the surgery of the future attract to its enthusiastic study and practice finer and finer men, in whose hands we may safely leave the development of our science. A single glance at the faces of the students who collect daily in your operating-room will show you what a change has occurred in the last twenty-five years. For this, too, we must ever be grateful to anesthesia, which, in removing the torture of surgery has robbed it of what repelled many sensitive natures. And the science of a sepsis, by rendering complete success in surgical work possible, will excite the most devoted enthusiasm from many scientific men, who soon would have become sick at heart over the failures of former times. What more attractive opportunity could possibly exist than will be offered by surgery to the well-educated, refined, able and ambitious student? Through the vast experience of the recent past he will find many of the coarser problems already solved, and those that remain will stimulate him by their difficulty. He will be an accomplished anatomist and a physiologist; he will study medicine and pathology first, and then general surgery. If he specializes his practice, he will do so only after a large general experience; and he will borrow from every science all that can contribute to the perfecting of his work.

DR. SAMUEL FENWICK has resigned his post as visiting physician to the London Hospital, after an incumbency as physician and assistant physician of twenty-eight years. He has been appointed to the consulting staff.

Poem.

THE BIRTH AND DEATH OF PAIN.¹

BY S. WEIR MITCHELL, M.D.

FORGIVE a moment, if a friend's regret,
 Delay the task your honoring kindness set.
 I miss one face to all men ever dear;
 I miss one voice that all men loved to hear.
 How glad were I to sit with you apart
 Could the dead master use his higher art
 To lift on wings of ever lightsome mirth
 The burdened muse above the dust of earth,
 To stamp with jests the heavy ore of thought,
 To give a day, with proud remembrance fraught,
 The vital pathos of that Holmes-spun art
 Which knew so well to reach the common heart.
 Alas! for me, for you, that fatal hour!
 Gone is the master! Ah! not mine the power
 To gild with jests, that almost win a tear,
 The thronging memories that are with us here.

The Birth of Pain! Let centuries roll away;
 Come back with me to nature's primal day.
 What mighty forces pledged the dust to life!
 What awful will decreed its silent strife!
 Till through vast ages rose on hill and plain,
 Life's saddest voice, the birthright wail of pain.
 The keener sense, and ever growing mind,
 Served but to add a torment twice refined,
 As life, more tender, as it grew more sweet,
 The cruel links of sorrow found complete
 When yearning love to conscious pity grown
 Felt the mad pain thrills, that were not its own.

What will implacable, beyond our ken,
 Set this stern fiat for the tribes of men!
 This, none shall 'scape, who share our human fates:
 One stern democracy of anguish waits
 By poor men's cots — within the rich man's gates.
 What purpose hath it? Nay, thy quest is vain:
 Earth hath no answer: If the baffled brain
 Cries, 'tis to warn, to punish — Ah, refrain!
 When writhes the child, beneath the surgeon's hand,
 What soul shall hope that pain to understand?
 Lo! Science falters o'er the hopeless task,
 And Love and Faith in vain an answer ask,
 When thrilling nerves demand what good is wrought
 Where torture clogs the very source of thought.

Lo! Mercy ever broadening down the years
 Seeks but to count a lessening sum of tears.
 The rack is gone — the torture chamber lies
 A sorry show for shuddering tourist eyes.
 How useless pain, both Church and State have learned,
 Since the last witch, or patient martyr burned. —
 Yet still, forever, he who strove to gain
 By swift despatch a shorter lease for pain
 Saw the grim theatre, and 'neath his knife
 Felt the keen torture, in the quivering life.
 A word for him who, silent, grave, serene,
 The thought-stirred master of that tragic scene,
 Recorded pity through the hand of skill,
 Heard not a cry, but, ever conscious, still

In mercy merciless, swift, bold, intent,
 Felt the slow moments that in torture went
 While 'neath his touch, as none to-day has seen,
 In anguish shook life's agonized machine.
 The task is o'er; the precious blood is stayed;
 But double price the hour of tension paid.
 A pitying hand is on the sufferer's brow —
 "Thank God 'tis over." Few who face me now
 Recall this memory. Let the curtain fall,
 Far gladder days shall know this storied hall!

Though Science patient as the fruitful years,
 Still taught our art to close some fount of tears,
 Yet who that served this sacred home of pain
 Could e'er have dreamed one scarce-imagined gain,
 Or hoped a day would bring his fearful art
 No need to steel the ever kindly heart.

So fled the years! while haply here or there
 Some trust delusive left the old despair;
 Some comet thought — flashed fitful through the night,
 No lasting record, and no constant light.
 Then radiant morning broke, and ampler hope
 To art and science gave illumined scope.

What Angel bore the Christ-like gift inspired!
 What love divine with noblest courage fired
 One eager soul that paid in bitter tears
 For the glad helping of unnumbered fears,
 From the strange record of creation tore
 The sentence sad, each sorrowing mother bore,
 Struck from the roll of pangs one awful sum,
 Made pain a dream, and suffering gently dumb!

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

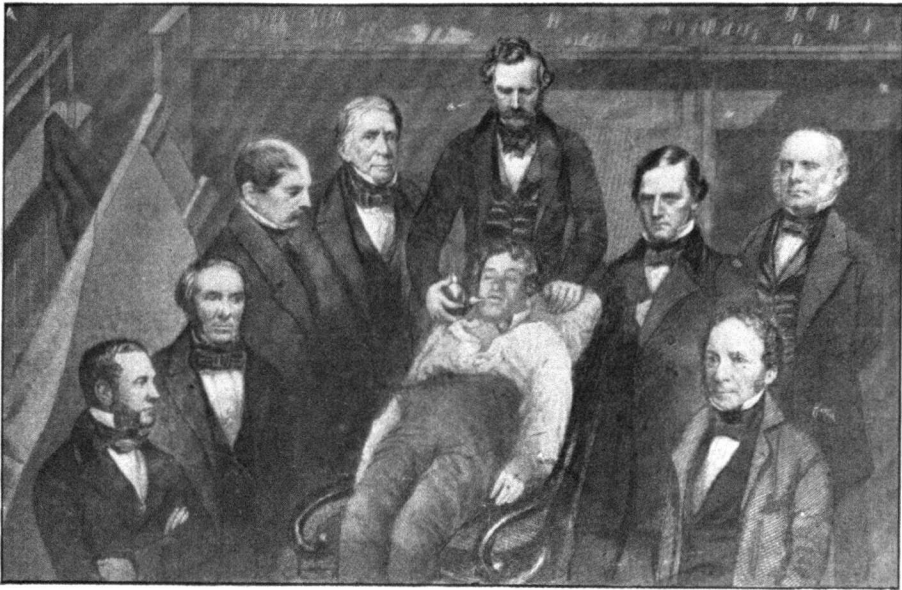
How did we thank him? Ah! no joy-bells rang,
 No pæans greeted, and no poet sang,
 No cannon thundered, from the guarded strand
 This mighty victory to a grateful land!
 We took the gift, so humbly, simply given,
 And coldly selfish — left our debt to Heaven.
 How shall we thank him? Hush! A gladder 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.

Oh! fruitful Mother — you, whose thronging states,
 Shall deal not vainly with man's changing fates,
 Of freeborn thought, or war's heroic deeds
 Much have your proud hands given, but nought exceeds
 This heaven-sent answer to the cry of prayer,
 This priceless gift which all mankind may share.

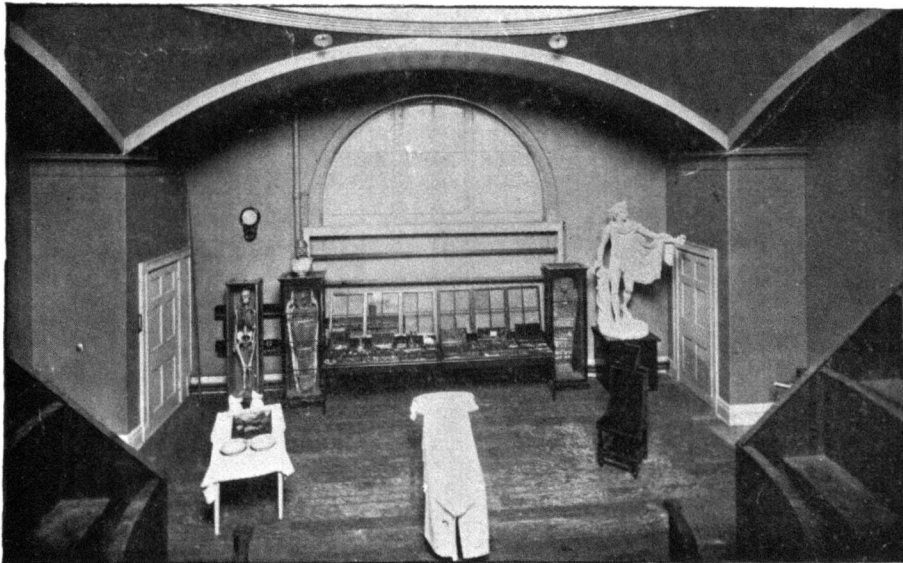
A solemn hour for such as gravely pause
 To note the process of creation's laws!
 Ah, surely, He, whose dark, unfathomed Mind
 With prescient thought, the scheme of life designed,
 Who bade His highest creature slowly rise,
 Spurred by sad needs, and lured by many a prize,
 Saw, with a God's pure joy, His ripening plan,
 His highest mercy brought by man to man.

¹ Read October 16, 1896, at the Commemoration of the Fiftieth Anniversary of the First Public Demonstration of Surgical Anæsthesia.

THE FIRST PUBLIC DEMONSTRATION OF ETHERIZATION AT THE MASSACHUSETTS
GENERAL HOSPITAL.



Dr. W. T. G. Morton.
A. A. Gould, M.D. J. C. Warren, M.D. Samuel Parkman, M.D. S. D. Townsend, M.D.
H. J. Bigelow, M. D. J. Mason Warren, M.D. George Hayward, M.D.



OLD AMPHITHEATRE, MASSACHUSETTS GENERAL HOSPITAL, AS IT WAS IN 1846.

