Chapter 9. Obstetrical Anesthesia

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Chapter 9

Obstetrical Anesthesia

May we not . . . look with confidence to the time when labor will be accomplished with an ease, a freedom from suffering, quite as great as has hitherto been the pain which has accompanied it, and which has been regarded as its necessary condition?

—Walter Channing, “A Case of Inhalation of Ether in Instrumental Labor,” 1847

On October 16, 1846, an operation for removal of a tumor from the neck of a young, impecunious printer named Edward Gilbert Abbott marked one of the great achievements of nineteenth-century medicine. John Collins Warren was scheduled to perform the procedure at the Massachusetts General Hospital. He had agreed to allow William T. G. Morton an opportunity to demonstrate the effectiveness of a still unnamed vapor in rendering the patient insensible and thus preventing pain during the operation. Morton, a dentist, had been experimenting for some time with compounds that would make dental operations painless. While Warren and the assembled physicians watched, he placed a glass tube close to the mouth and nose of the patient and instructed him to inhale. In four or five minutes Abbott seemed to be asleep and Warren began to operate. His patient was not entirely motionless or silent throughout the surgery, but he did not feel pain. Afterward, Abbott reported that he was aware of a blunt instrument being drawn across his neck, not the sharp knife with which Warren had incised his flesh.1 Warren reportedly immortalized the event by proclaiming, “Gentlemen, this is no humbug.”2

Morton intended to keep the formula a secret, expecting to reap huge profits by selling or licensing the compound to other physicians. He was quickly disabused of that idea, for it was not difficult to figure out what the vapor was. The name he had chosen for it, “Letheon,” was abandoned when Oliver Wendell Holmes suggested “anesthesia,” a word derived from Greek and
used by Dioscorides in the first century A.D. to describe drug-induced insensitivity.\textsuperscript{3}

Few medical discoveries have contributed more to the betterment of human existence than this one. Though other gases, including nitrous oxide, or "laughing gas," had long been known to induce temporary loss of sensation and bitter controversy would rage for decades about the "real" discoverer of anesthesia, Morton's success with sulphuric ether, its use in subsequent operations at the hospital, and its rapid application in surgery and dentistry in many parts of the world made the first ether operation a historic occasion.\textsuperscript{4}

Though Channing had hesitated to accept new ideas about the spread of puerperal fever, he soon took the lead in recognizing the benefits of anesthesia for obstetrical practice. He had not witnessed Morton's demonstration, for he was no longer on the staff of the hospital, nor was he accustomed to attend surgical procedures. Neither was he present when anesthesia was first administered in a case of childbirth. But he was the first American physician to use it in an instrumented delivery and was so convinced of its merit by the success of that case that he rapidly became the nation's leading champion of anesthesia for women in labor and delivery.

News of Morton's accomplishment spread like wildfire in the Boston medical community.\textsuperscript{5} Henry J. Bigelow (son of Jacob Bigelow), a prominent surgeon present at the dramatic first operation, announced "the recent discovery & practice of the inhalation of a vapor so as to produce insensibility" to the American Academy of Arts and Sciences on November 3 and to the Boston Society for Medical Improvement on November 9.\textsuperscript{6} Channing heard the full story there, though he was undoubtedly already aware of the news. The \textit{Boston Medical and Surgical Journal} published the younger Bigelow's paper ten days later.\textsuperscript{7}

Reports of the extraordinary drug quickly reached Europe. Jacob Bigelow described it for a friend in London, who informed his colleagues at University Hospital.\textsuperscript{8} There, on December 21, Robert Liston performed the first anesthetized surgical procedure in England and predicted that within six months no operation would be done without it.\textsuperscript{9} A Harvard medical graduate wrote to colleagues in Paris and they too began to experiment with it.\textsuperscript{10} Soon German and Russian physicians were similarly engaged.

A young Scot, James Y. Simpson, recently appointed Professor of Midwifery in Edinburgh, hastened to London to see for himself the effect of anesthesia in surgical operations.\textsuperscript{11} Simpson immediately understood the possibilities for instrumented deliveries, and shortly after his return to Edinburgh he performed the first recorded obstetrical operation in which anesthesia was administered. He had selected his initial case carefully because no one knew
whether ether would halt uterine contractions. The woman whom Simpson chose had a severely deformed pelvis and he knew he would have to turn the fetus and extract it feet first. Contractions would not be essential to the success of the operation; in fact, their cessation might make it easier. He discovered, however, that contractions did not stop, while the patient remained completely insensible to the pain of a potentially excruciating maneuver. Simpson concluded that the discovery of anesthesia had enormous potential in the practice of midwifery.\textsuperscript{12}

Now news traveled across the Atlantic in the other direction. Reports of Simpson's initial achievement and his subsequent success using anesthesia in normal deliveries as well as in operative midwifery soon reached Boston. But, whereas the use of anesthesia in America was promoted by surgeons and dentists, for whom the screams and writhing of their patients made their work difficult emotionally as well as technically, the first trial of anesthesia in childbirth was due to the courage and determination of a woman.\textsuperscript{13}

Fanny Appleton Longfellow, the wife of the poet Henry Wadsworth Longfellow, wanted to have ether administered during her third labor. She knew that anesthesia had been successfully used for childbirth in Britain and in Paris.\textsuperscript{14} But local physicians, uncertain of the effect on mother and child, had not yet dared to try it. She had no friends who could describe a similar experience. Indeed, she risked criticism from many women who would not have approved such an unconventional act.\textsuperscript{15}

Boston's dentists had become experienced with ether in the few months since Morton showed how easily it obliterated pain. Among them was Nathan Cooley Keep, whom Longfellow engaged for his wife's confinement. Keep had received a medical degree from Harvard in 1827. His particular interest in dental medicine led to an association with Morton and thus to extensive familiarity with anesthesia. A few weeks before he was asked to administer ether to Fanny Longfellow, he addressed a communication to the \textit{Boston Medical and Surgical Journal} describing the apparatus necessary for its administration.\textsuperscript{16} When Fanny's labor began on April 7, 1847, Keep was summoned to Craigie House, the Longfellow home in Cambridge, where a midwife was already present to "manage the case" and deliver the baby.\textsuperscript{17}

Keep's description of the event was succinct, but it spoke to the questions on everyone's mind.

Five and a half hours having elapsed from the commencement of labor, her pains . . . becoming severe, the vapor of ether was inhaled by the nose and exhaled by the mouth. The patient had no difficulty in taking the vapor in this manner. . . . In the course of twenty minutes
four pains had occurred without suffering, the vapor of ether being administered between each pain. Consciousness was unimpaired and labor not retarded. Inhalation was then suspended that a comparison might be made between the effective force of the throes with and without the vapor of ether. No material difference was detected, but the distress of the patient was great. Inhalation was resumed, but the progress of the labor was so rapid that time could not be found for sufficient inhalation to bring the system perfectly under its influence; still the sufferings of the last moments were greatly mitigated. . . . No unpleasant symptoms occurred, and the result was highly satisfactory.
Longfellow was greatly relieved by the success of a trial that might have had an unhappy outcome. Within hours of the birth he announced to a friend, "The great experiment has been tried, and with grand success. ... The Ether was heroically inhaled." He also described the event for his mother, Zilpah Longfellow. "Fanny was courageous enough to be the first in this part of the world to inhale the vapor of Ether, under similar circumstances. The effect was magical. All pain instantly ceased; though the labor continued; and while under the effect of the vapor, there was a delightful sensation of repose! Only when the phial of ether was removed, did she become conscious of pain. The trial proves, that the new-discovered Letheon may be used not only with perfect safety in such cases, but with most beneficial results afterwards. Fanny has never before seemed so quiet and well after a confinement."

Though Longfellow's family and friends scolded him for permitting his wife to take such a risk, especially since the physicians were not using it in their midwifery cases, Henry was so satisfied that the day after the birth he went to Boston to have the stump of a double tooth extracted under anesthesia by Dr. Keep. Fanny was equally pleased, telling her sister-in-law, "Two other ladies, I know, have since followed my example successfully, and I feel proud to be the pioneer to less suffering for poor, weak womankind. This is certainly the greatest blessing of this age, and I am glad to have lived at the time of its coming and in the country which gives it to the world."

Though Fanny Longfellow had been delivered without mishap and reports from Europe were encouraging, there were very real concerns. No one understood how anesthesia worked, although animal experiments indicated that it was transmitted to parts of the brain that control consciousness and sensation. If this was true, might it also induce puerperal convulsions? Might it affect other organs, cause complications, and threaten the health of the mother? Surgery and dentistry had shown that the voluntary muscles ceased to function during its use. Would uterine contractions halt or be less effective? Was anesthesia inhaled by the mother safe for the baby? For how long might it be safely administered? Surgical and dental operations were relatively quick, whereas labor could last for hours. What was the proper dosage? What was the best way to administer it during childbirth? Was chloroform, which Simpson had begun to use instead of sulphuric ether, preferable to ether, which had been accepted by surgeons and dentists in Boston? Finally, was there a physiological necessity for pain in childbirth which made all the other questions moot?

There were also cultural assumptions about pain in childbirth. Most prominent was the precept that labor was the punishment women were ordained to suffer because of Eve's sin in the Garden of Eden: "I will greatly multiply thy pain and thy travail, in pain thou shalt bring forth children." A different but
commonly accepted belief was that middle-class women had become “weak” from their soft, less-demanding lives and were just more sensitive to pain than women in primitive societies and lower-class women in the Western world. Finally, there were those who took a psychological approach and asserted that the pain a woman suffered while giving birth was a positive good. It helped her to bond with her child and prepared her for motherhood. Most of these views, it must be said, were expressed by men. Women may have accepted their weak status, as Fanny Longfellow did when she felt “proud to be the pioneer to less suffering for poor, weak womankind,” but many were as eager as she to have relief.

CHANNING had long regretted his inability to offer women a magic potion that would reduce their agony and lessen their fears. If a patient seemed especially troubled, he might prescribe opium compounds. He could also resort to bleeding, which sometimes relieved pain, especially if enough blood was drawn to cause partial or complete loss of consciousness, but venesection was less acceptable than it once had been. He relied primarily on rapport with his patients and his calm, confident demeanor to lessen anxiety, reduce tension, and thus relieve their pain.

There is no indication that either Fanny or Henry Longfellow sought Channing’s advice. But he was aware of the success with which anesthesia was being used for obstetrics in Edinburgh and Paris. At the meeting of the Society for Medical Improvement on April 26, he heard Dr. John Homans describe an obstetrical case in which he had used ether “with mitigation of the pains.” Homans mentioned that the patient’s breath retained an ether smell for a week after delivery, but otherwise he was satisfied with the outcome.²⁴

Thus on May 7, when Dr. W. E. Townsend asked Channing to consult in a difficult case, he was predisposed to learn for himself how effective ether could be. He saw Townsend’s patient, Mrs. H., age twenty-three, around 9:00 A.M. She had had severe pains for more than thirty-three hours, but her cervix had hardly dilated. Townsend had prescribed an opiate and she was resting. Channing predicted that the labor would be protracted and painful, but he advised waiting to make sure that the use of instruments could not be avoided. When he returned at noon, there had been little progress. He recommended belladonna be applied to speed dilation. A few hours later, Townsend appeared at Channing’s door seeking further advice. They agreed that it was “a very fair case for the use of ether.” Townsend went off to get the ether and a sponge and met Channing at the patient’s house.

By now Mrs. H. was in serious trouble. She had been in labor about forty-two hours. Though the cervix was more dilated, her pulse had risen to 120
beats per minute and was feeble. In faltering syllables, unable to speak above a whisper, she pleaded for help. Channing applied forceps without difficulty but when he began to pull, she screamed with pain. At that point, Channing instructed Townsend to apply the sponge, saturated with ether, to her mouth and nose.

This he did, and in about a minute she was under the full influence of the ether. The first inspiration produced a slight cough, as if the larynx had been irritated. . . . The next noticeable effect, and which was quite an early one, was a sudden movement of the body, such as is made sometimes when one is falling asleep, and has consciousness enough to know this, and to rouse the will into sufficient action to prevent it. It was involuntary, still it did not convey the idea of being spasmodic, in any morbid understanding of the term. She was directed to open her eyes, to answer questions, etc., but gave not the least evidence of consciousness of anything said. I now proceeded to extract. 25

Mrs. H. did not say a word as the operation continued. Nor was there any reduction in the expulsive action of her uterus. For a while it seemed all would go well, but again the child’s head became firmly fixed in the pelvis and Channing could not use forceps without risking damage to Mrs. H. The effect of the ether had diminished and she regained consciousness. “Put it to my mouth—I shall faint—you must,” she murmured. Channing sent for a resupply. Meanwhile, he perforated the child’s head and tried to continue extraction using the hook. Once again Mrs. H. cried out in pain and he had to stop. “The repose had been entire since consciousness had returned. She thought she was delivered. Said that she had sense, knew that she was alive, after the sponge was put to her mouth, but that she had no feeling after, and knew not what had happened. She had passed the time in most entire freedom from all pain. She said that there had been light before her eyes, and buzzing in her ears, that she had been in another world.” 26 When the sponge was reapplied, Mrs. H. lost consciousness again and Channing continued to extract the child. The uterus did not cease to contract, but progress was slow and ether was administered several more times. The child had been dead for some hours. Mrs. H. recovered consciousness soon after it was born and reported her ignorance of everything that had happened.

Throughout the delivery, Channing paid minute attention to his patient’s respiration, color, and pulse as well as her emotional response to the anesthesia. For several days afterward he continued to monitor her condition, looking for any indication that the ether had caused problems. He found none. She slept well, her pulse was good, tongue moist, head clear, and she was com-
pletely comfortable. In fact, she recovered more rapidly than might be expected after a difficult forty-eight-hour labor. As usual, there was no reference to sorrow over the dead child.

When Channing published this first case report of operative midwifery using anesthesia in the United States, he gave all the details. He knew well how important it was. Homans had been brief in his description to the Society for Medical Improvement and had not produced a written record. As a professor in a respected medical school and as the best-known obstetrician in New England, Channing's comments regarding the safety and efficacy of ether would receive careful attention from colleagues throughout the country and in Britain. He composed a full account, which he read to the society on May 10 and published in the *Boston Medical and Surgical Journal* on May 18, 1847. To his surprise, the paper earned him a reputation for being the first American to administer anesthesia in midwifery, a claim he readily disavowed.27

Within a week Channing reported a second forceps case in which he used anesthesia. This time, a nine-pound boy was born alive. Recalling that the birthing room was saturated with ether vapor in Mrs. H.'s case, he had covered the sponge with brown paper. As the patient emerged from unconsciousness, she babbled on about her happy dreams and wanted to know why anesthesia had not been used before. The following day she remembered absolutely nothing, the dreams, Channing's presence, or the application of instruments. As with Mrs. H., Channing had deliberately applied the forceps before inhalation of the ether so that the possibility of injury could be reported by the patient.28

From then on, his experience with ether continued to grow, as did his enthusiasm. He arranged to have the first two cases reprinted in a single pamphlet for wider dissemination.29 In mid-June he reported three more cases in the *Boston Medical and Surgical Journal* and soon after that he published another pamphlet, *Six Cases of Inhalation of Ether in Labor*, for the benefit of colleagues who did not subscribe to the journal.30 He justified each example by the severity of the pains, duration of the labor, or the need to use instruments.

He was learning from every case. In one, he gave ether intermittently over nine hours, longer than ever before. The patient asked for it when she thought she needed it and threw the sponge aside as soon as she felt it taking effect. Channing was astonished by her control of the situation as well as by her effusive gratitude "for this means of comfort." Her family was less pleased, because she suffered bad headaches and chest pains afterward. Channing had not been informed of these potentially dangerous conditions, so he cautioned his readers "to learn if peculiarities exist in patients, or if morbid predispositions may be supposed to belong to them" before giving anesthesia.

He was also struck by the behavior of his patients. Mrs. R. initially refused to accept the sponge, but, once she was under its influence, it was difficult to
persuade her to give it up. After the delivery, she sang, talked, and swung her arms in the air. When she heard the baby cry, she put her hands to her abdomen as if to learn what had happened and was astonished to find the child born. Mrs. W. cried out, “I am dying, I am dying,” when ether was first given to her but murmured, “How beautiful, how beautiful,” throughout the rest of the labor. None of the women remembered the ordeal they had gone through.

Channing was rapidly becoming a crusader for anesthesia. If he encountered problems during or after a delivery, he assumed they were not different from nonanesthetic obstetrics and could not be attributed to the vapor. He did not mention the nausea, hoarseness, or offensively sweet smell often associated with ether. By the end of June, several local physicians were using it in their obstetrical practices. By the end of November, Channing had attended forty cases of his own, more than any other physician in Boston, probably more than any in the United States. But doubts remained. The editor of the Boston Medical and Surgical Journal warned about the danger of “serious mischief” and recommended that ether should be reserved “for the most difficult and trying circumstances.” Some physicians reported fainting and hysteria or diminished and arrested contractions. There were notices of deaths from chloroform administered in surgical and dental cases. Well-esteemed obstetricians were expressing their opposition, citing physiological and psychological reasons for not using it. Channing decided he must respond to these negative comments and began to plan what would be his most ambitious and most important published work, A Treatise on Etherization in Childbirth, illustrated by Five hundred and eighty-one Cases.

Today a federal government agency evaluates scientific data based on clinical trials and is required by law to approve a new medical procedure. In the mid-nineteenth century there was no formal system to determine the efficacy and safety of medical innovations. Evidence was anecdotal. Physicians offered medical treatment on the basis of their individual training, experience, and preferences. Patients and their families would be influenced by rumors and the opinions of their friends. Channing decided it was incumbent on him to accumulate as much data about obstetrical anesthesia as he could, aggregate the results, and make a rational judgment about its benefits and dangers.

The concept was similar to the “numerical method” introduced to American medicine by the disciples of Pierre Louis. Channing’s study did not require sophisticated mathematical analysis, but it was nonetheless one of the earliest examples in the United States of large numbers of similar events used to test a medical hypothesis. His personal experience undoubtedly predisposed him to a favorable conclusion, but by soliciting information from many colleagues, some of whom he did not personally know, he expected more valid results.
The quotation on the title page of the work, “Give me the facts . . . your reasonings are the mere guesswork of the imagination,” was the motif of his research.  

Forty-five physicians responded in writing to eleven questions Channing posed in a letter asking about their experience with anesthesia, whether ether or chloroform. Some reported only one or two cases, while others, such as John Homans, had used it almost as often as Channing. Channing assembled the data in three tables, to which he added extensive commentary and a fourth table for comparison with nonanesthetized deliveries. 

The first table summarized 516 cases of “natural labor,” that is, head presentations delivered without instruments or other assistance. Forty-five were from his own practice. Many were long and painful labors. There were no maternal fatalities. Five stillbirths could be explained without reference to anesthesia. None of the physicians reported an “apparent danger” during delivery. There were examples of diminished contractions, even cessation of contractions, when anesthesia was first given, but they had resumed, often more efficiently than before. Channing assured his readers that serious problems were not likely to result from those events. Ether was used two times more frequently than chloroform, though several physicians expressed a strong preference for chloroform. Smaller quantities were required, making it easier to carry to the patient’s home. It also had a less offensive odor, took effect more rapidly, permitted a quicker return to consciousness, and could not be detected on the breath of the child. 

There were no standard answers to questions about quantity, length of use, or time elapsed before the anesthetic took effect. To Channing’s query about “special effects, physical, moral, and intellectual, in individual cases,” the answers ranged from “no special effects” to “pleasant effects.” One physician described “nervous excitement with laughing” for five patients, “expressions of delight” for another five, and “hysterical screaming in two for a short time.” He added that all his patients were eager to continue inhalation. There were many accounts of reduced muscular tension, less exhaustion, quicker labors, reduced after-pains, and an easier, quicker “getting up.” Everything pointed to proof that anesthesia did not pose a danger in “natural labor.” To the contrary, it had many positive benefits. 

Tables 2 and 3 listed cases of instrumental, preternatural, and complicated labor. Channing endeavored to include every case of this kind that had occurred in Boston and vicinity since obstetrical anesthesia had been introduced. He had himself participated in twenty-eight of this group. He analyzed these cases and twenty-four more that had been communicated to him by other physicians. Forty percent were forceps deliveries; the rest included cranioto-
mies, convulsions, breech and arm presentations, hemorrhages, and twins. There were four maternal fatalities, less than 8 percent, all attributed to convulsions. Six additional women with convulsions recovered. Among the babies, there were nineteen stillbirths, just over 37 percent.

Channing compared these maternal fatalities and stillbirths with similar labors without anesthesia. There were fifteen maternal fatalities and seventeen stillbirths in eighteen cases where anesthesia was not used. Channing was particularly gratified by evidence that anesthesia made turning in breech and arm presentations easier and less dangerous. There were no dead mothers or babies in this group and the hands of the physicians were less pained or damaged by the force of uterine contractions. Fortified with these data, Channing declared anesthetized deliveries in operative midwifery were also safe for mother and child.37

Many of the physicians included personal remarks with their responses. Dr. Erasmus D. Miller wrote, “I know of no better criterion, in its administration, than to trust to the wishes of the woman.”38 Some women did not want an anesthetized birth, “preferring to trust to their powers of endurance” even when they knew that the physician had brought chloroform or ether with him.39 A patient in South Boston rejected a second dose of ether because she wanted “to complete labor in the natural way.”40 Others obstinately refused relief until the pains became unbearable. A woman in Salem, Massachusetts, learned about anesthesia from friends in Boston and had expected to use it until she was dissuaded by the women assembled to help with the birth. Eventually, worn out and depressed by the severity of the pains, she reasserted herself and begged for anything that would alleviate her suffering.41 “Chloroform-phobia” was attributed by Dr. Folts to the husband and friends of Mrs. L. In the first stage of her labor they refused to allow its use, but her agony during the second stage of labor and the physician’s pleas on her behalf forced them to relent. When chloroform was administered, however, Mrs. L. became extremely talkative, frightening her husband so badly that he demanded a halt. Again she begged for relief and again Mr. L. gave in. A healthy child was born and everything went well until the husband became alarmed once more because his wife was sleeping so peacefully.42

Physicians’ enthusiasm for anesthesia was not uniform. Some willingly used it in just about every case, while others, like Dr. Miller, used it only if the woman insisted. There were physicians who restricted it to operative obstetrics and a few who remained skeptical even though they had not had a negative experience. Dr. W. Strong wrote, “I have been opposed to its use, and have only yielded to importunity, when I gave it; and this not because I had seen any bad effect, but because I prefer to pursue old methods, which have been
found safe and sufficient, in preference to enter upon the use of an untried remedy." Jacob Bigelow summarized the opinion of many of his colleagues by commenting that obstetrical anesthesia was "an experiment not yet settled in all its bearings, but promising much for the relief of human suffering." 

Channing did not share his restraint. There were many reasons for his enthusiasm. He had taught toxicology as part of his course in medical jurisprudence and chemistry at his private medical school and was familiar with the potential effects of anesthetic gases. The fact that "[t]he remedy of pain was discovered in this city" appealed to his local pride. Finally, but perhaps most important, his zealous promotion of anesthesia satisfied his humanitarian instincts. The volume, he wrote, "treats of a noble subject, the remedy of pain. After ages of suffering and of frequently and long intermittted pursuit of such a remedy, one has been discovered." He was convinced by his data that anesthesia in childbirth was safe and effective.

Channing wanted to make sure physicians used anesthesia correctly, and he included instructions in the Treatise. He insisted that the anesthetic agent, whether ether or chloroform, must be pure. To illustrate the proper mode of administering it, he provided a sketch of a conical device, manufactured according to his instructions by a local instrument maker. Unlike Simpson, who used large quantities of anesthesia, he advocated moderate dosage. "Entire etherization," he advised, "is unnecessary in midwifery, except in instrumental and other difficult cases."

Anxious that his numerical method might not be sufficiently reassuring for his medical audience, Channing devoted a large part of the treatise to the physiological and neurological effects of anesthesia. He attempted to explain the tingling in the fingers that patients often experienced, as well as dizziness, confusion, and noises in the head. He reported animal experiments that seemed to corroborate his understanding of the mechanism of anesthetic agents, and he praised new investigations regarding consciousness and sensibility. Channing was a compassionate physician, but he was not a scientist, and much of this discussion makes little sense in the light of subsequent developments in our understanding of physiology.

He had been forced by use of the new agent to reconsider his assumptions about the mechanism of childbirth and produced some interesting though mistaken conjectures. For instance, to counter the argument that pain is a necessary component of labor, he developed his own explanation of parturient pains, asserting that contractions of the uterus do not cause pain any more than contractions of the bladder or rectum cause pain. Instead, he suggested that pain is produced by the opposition encountered by the fetus as it descends through the pelvis. With anesthesia, he wrote, there is no pain because the
muscles do not resist the expulsive power of the uterus. In another original observation, he maintained that cervical dilation is not caused by pressure of the fetal head or amniotic sac or by any “mechanical action,” though his alternative interpretation, that dilation of the os uteri is “functional,” that is, a physiological process, did not explain much, either.

To the argument that “labor pains are not so severe as to authorize the use of an agent of unknown power to destroy sensibility,” Channing suggested that the gentleman who made this statement had never given birth and probably had never witnessed a birth. To those who feared that etherization might injure the newborn, he again relied on his experience and his data, claiming that ether reduced the number of stillbirths and that the children he had delivered were “fully equal, in health, growth, and mind, to those who have been born in the midst and pressure of the severest pain.” He had followed those children since birth, questioning the mothers about the development of their newest born, and observing them for himself.

He also tackled moral objections. Not surprisingly, anesthetic substances were being abused for the emotional high they give. Reports of “ether parties” and of young girls breathing chloroform for private amusement were damaging the drugs’ reputation as materia medica. Channing had no patience with
such behavior, which in some instances had nearly been fatal, but he was equally impatient with the argument that such foolishness should impede the use of anesthesia in appropriate situations.

As for religious objections to the use of anesthesia in childbirth, Channing was familiar with the dialogue between Simpson and Scottish churchmen who had severely chastised him for transgressing the divine decree regarding the "primeval curse." Simpson was a linguist, philologist, and Biblical scholar as well as a scientist and physician. He had reinterpreted the Hebrew text, reading "sorrow" not as the sensation of pain, but as the "muscular toil and effort" associated with childbirth.49

Channing took a different, entirely idiosyncratic position in the theological dispute. He pointed out that Scripture was often used to discredit many kinds of "moral improvement," meaning in this case the social causes he supported. The peace movement, for example, could be contradicted by the wars of the Israelites or temperance reform by the marriage at Cana. Channing found better Scriptural support for peace and temperance, as well as for anesthesia, in his certainty that the Creator had endowed man with the intellectual capacity to improve his existence, including his health. Then, and in a remarkable bit of Biblical exegesis, Channing suggested that "Eve's curse" might refer to "the sorrow caused by the wickedness of children, when grown up." He probably did not intend to reveal the sorrow caused by his own child, Ellery, but the possible coincidence cannot be ignored.

Channing decided he needed support for these arguments from a recognized authority and consulted Professor George Rapall Noyes of the Harvard Divinity School.50 Noyes, esteemed for his Biblical scholarship, furnished two letters, which Channing included in the Treatise. The professor took issue with Simpson's philological explanation of "sorrow" and with Channing's suggestion about wicked children, arguing instead that the birth of children had been a joyful occasion for Eve. But he did offer Scriptural support for the notion that human ingenuity used for the relief of pain is "the use of God-given means by God-given powers."51

Channing knew that the most powerful opposition to anesthesia in childbirth came from Professor Charles D. Meigs of Philadelphia, as obstinate on this subject as he was on puerperal fever. Meigs had already clashed with Simpson, and an exchange of their letters had been published in medical journals.52 He argued that anesthesia was potentially life threatening because it could affect the medulla oblongata, the portion of the brain thought to control what he termed the "næud vital," or life force.53 "I fear," he wrote to Simpson, the primary champion of chloroform, "that, in all cases of chloroformal anesthesia, there remains but one irrevocable step more to the grave." Since no one
understood the physiological process by which anesthesia produced insensi-

bility and memory loss and there had been fatalities in non-obstetric cases, his

point could not be totally dismissed.

Meigs insisted that pain in labor was essential to the physiology of the

birth process, a “most desirable, salutary, and conservative manifestation of

the life force,” and that a mother risked her life and her health if she chose to

avoid it. He counted on her sense of pain to help him follow the progress of

the labor and to assist him in operative obstetrics.54 In a statement typical of

the pompous and melodramatic utterances for which he already was well

known, Meigs summarized his personal sentiments: “Should I exhibit the rem-

edy for pain to a thousand patients in labour, merely to prevent the physiologi-

cal pain, and for no other motive—and if I should in consequence destroy only

one of them, I should feel disposed to clothe me in sack-cloth, and cast ashes

on my head for the remainder of my days. What sufficient motive have I to

risk the life or the death of one in a thousand, in a questionable attempt to

abrogate one of the general conditions of man?”55

Meigs’s explanation of his refusal to make use of “the remedy for pain”

included a reference to “Dr. Channing, Dr. Homans, and other practitioners,

who make use of it very commonly.” Channing realized that Meigs had placed

himself in an untenable position because, never having used it or seen it used

in midwifery, he had no personal experience with anesthesia. How could he

be so certain of the negative effects? To make sure, he sent Meigs a copy of the

interrogatory letter with which he queried his colleagues in Boston. Meigs

obliged with a long reply, which Channing published in the

Treatise. Though

the tone of his letter was deferential, Meigs did not retreat: “I hold myself in

readiness to yield to conviction upon sufficient evidence of the necessity and

propriety of etherization in midwifery; but I beg leave to say, that this is a case

in which I should hardly yield my opinions to the force of statistical returns,

because I have no doubt of some physiological and therefore needful and use-

ful connection of the pain and powers of parturition, the inconveniences of

which are really less considerable than has by some been supposed.”56

Channing intended the Treatise on Etherization in Childbirth, with its anal-

yses of nearly six hundred cases, as a powerful answer to Meigs and to other

physicians who still doubted the wisdom of anesthesia in midwifery. He

worked rapidly so the book might reach the public as quickly as possible.

More careful editing would have improved it. There are redundancies, contra-

dictions, and a few errors in fact. Nonetheless, though overwritten and faulty

in the light of subsequent, more sophisticated statistical and epidemiological

methods, Channing’s presentation did what he hoped—it reassured the profes-

sion and the public that anesthesia was safe for mother and child.
Most reactions to publication of the *Treatise* were friendly. A woman who had suffered agonizing pain during her lying-in wrote to congratulate him. Most doctors, she said, were satisfied to study the process of labor but unwilling to relieve pain. At last, there was a physician “above the imputation of quackery” who offered relief. She urged Channing to continue to do everything he could to “disseminate confidence” in ether. J. F. B. Flagg, a surgeon-dentist, recommended the book “to all who are desirous of obtaining information that must add much to their happiness.”

The *Boston Medical and Surgical Journal* changed its critical tone, enthusiastically urging “perusal of each and every case” mentioned in the book and praising “the timely production of this mass of evidence in proof of the true value of etherization in midwifery.” There were rumors that a strongly negative review would soon appear, aimed either at “the total annihilation of the author or . . . at the destruction of the heretical doctrine he has put forth.” Channing was so certain of the validity of his argument that he had no fear of the impending threat. It seems not to have materialized.

Edward Warren, a younger brother of John Collins Warren and a physician himself, discussed the *Treatise* in the *North American Review*. (It is possible that Warren’s close association with the leading figure in the introduction of surgical anesthesia colored his opinion.) He strongly supported anesthesia for “individuals of the softer sex,” for whom there is “so great a degree of physical as well as mental sensibility, that they cannot bear a great amount or long continuance of pain.” Warren recognized that Channing’s effusive advocacy of anesthesia was similar to his zeal for social reform, but he was certain of the objectivity and impartiality of his investigation. Warren was satisfied that the evidence Channing had accumulated proved his case and that people still in doubt could reach their own conclusions after reading the book.

There were also more guarded appraisals. Daniel F. Condie, a Philadelphian with a large obstetrical practice, wrote a long review for the *American Journal of the Medical Sciences* that echoed the concerns of Meigs and other conservative physicians about the possibility of death in an etherized patient, the necessity of pain, and the diminution of uterine contractions. Condie wanted a degree of certainty about safety and efficacy that no one, certainly not Channing, could produce. Indeed, Channing’s extravagant enthusiasm for anesthesia and his willingness to dismiss the possibility of harm made it difficult for men like Condie to accept his arguments at face value. All he could do was to thank him for “having collected much of this evidence.”

The strangest voice raised in opposition to anesthesia was that of Samuel Gregory. Gregory had attended a few medical lectures while a student at Yale, but he knew very little about medical practice. After graduating in 1840, he
embarked on a career as a pamphleteer and itinerant lecturer on many subjects, including mesmerism, phrenology, physiology, personal hygiene, and the dangers of masturbation. When he began to criticize the practice of obstetrics by male physicians, calling them men-midwives and accusing them of indecent conduct and harmful procedures, he moved on to a larger stage. His call for the renewal of female midwifery and adequate education for women who wished to be midwives resonated with fathers and husbands who feared that the modesty of their daughters and wives was being compromised by the presence of medical men in the birthing room.

There was nothing wrong with Gregory's desire to promote female midwifery. There were always women who preferred to be delivered by a midwife and other women who wanted midwifery training. But his lurid accusations of licentiousness, cruelty, and butchery on the part of male accoucheurs did not endear him to the medical profession, whose opposition to female physicians and midwives was strengthened by Gregory's rhetoric.

The elaborate title of Gregory's best-known pamphlet reveals the tenor of his argument: *Man-Midwifery Exposed and Corrected; or, The Employment of Men to Attend Women in Childbirth, and in other delicate Circumstances, shown to be a modern innovation unnecessary, unnatural and injurious to the physical Welfare of the Community, and Pernicious in its influence on Professional and Public Morality, and the Whole Proven by numerous facts, and the testimony of the most eminent physicians in Boston, New York, and other places; and the Education and Employment of Midwives Recommended; together with remarks on the use and abuse of ether, and Dr. Channing's "Cases of Inhalation of Ether in Labor."

It had been published in Boston a few months before Channing's *Treatise* went to press.

In addition to delivering a scathing attack on physicians who engaged in obstetrical practice, Gregory cast serious doubts on the safety or necessity of obstetrical anesthesia. To demonstrate the pernicious effects of male midwifery, he reinterpreted the six cases described in Channing's early pamphlet. Gregory was careful to exonerate Channing of deliberate misconduct, since "the eminent professor" had been called when the women were already exhausted from excessively long labor. The problem, as he saw it, was that other men had been in attendance during the previous days and nights, subjecting their patients to frequent vaginal examinations, inserting catheters, applying ointments, and otherwise proceeding according to the "shameful, detestable, and dangerous" rules of man-midwifery. In Gregory's view, these women, naturally modest, delicate, and sensitive, would not have had such long and painful labors if they had not been embarrassed and frightened by the presence of a man. Remove men from the birthing room and there would be no need
for ether, catheters, ergot, or instruments. If the mother experienced pain it was salutary and would be forgotten once she was happily delivered.

Gregory did not neglect arguments about the dangers of ether, including the possibility of suffocation, poisoning, and organic disease. He reported a case of a dentist who “violated” his female patient while she was anesthetized. He suggested that “animal magnetism” and intoxication produced the same insensibility and indifference as ether, with the same potential for violating female propriety. Gregory’s writings reinforced the views of Bostonians opposed to anesthesia and to the presence of physicians in the birthing room, but they had little effect on the medical profession itself.

THE Committee on Obstetrics of the newly organized American Medical Association focused on etherization in its 1849 annual report. With some colleagues still questioning the safety and usefulness of anesthesia in childbirth, Channing’s “most unexpectedly favorable” conclusions played a large part in the deliberations. The committee deemed his analysis, based on “the largest number of cases . . . yet published,” the most valuable contribution to the literature on the subject. Accounts from other physicians in the United States and Europe were imprecise and less accurate. The committee report repeated many of Channing’s statistics as well as his explanation for the disparity between the number of deaths in anesthetized surgical cases and the complete absence of deaths in obstetrics. Channing had suggested that the more moderate use of anesthesia in obstetrics, where consciousness need not be completely lost, made it less dangerous than in surgery, where it was administered in advance of pain.

These reports of occasional fatalities in surgical procedures where chloroform was used continued to impede acceptance of obstetrical anesthesia even though “no one woman has yet lost her life in consequence of the pains of her labour having been controlled by etherization.” The committee felt bound to include negative opinions in its generally favorable report and let physicians decide for themselves. The one application to which it gave unequivocal approval was for control of puerperal convulsions, since the purpose was not relief of pain but cure of disease.

Channing continued to promote the acceptance of anesthesia. He frequently reported additional cases to the Society for Medical Improvement, including one of inverted uterus and another of placenta previa. In both, anesthesia permitted him to perform life-saving operations. By 1851 he was ready to state that he considered it “his duty” to use it in all cases of parturition and that he greatly preferred ether to chloroform. There was still no unanimity among his colleagues. Nearly all the patients of J. Mason Warren asked for and received it, while Jacob Bigelow used it in about half of his cases. Others who had never been enthusiastic were using it less. Newspaper accounts of
accidental deaths during ether-sniffing parties continued to frighten many people.

Channing's enthusiasm seemed boundless. In a paper read to the Society for Medical Improvement, he described a series of cases in which chloroform was applied externally on the skin to relieve various aches and ills. His incredulous colleagues queried him on the assertion, particularly Channing's insistence that the relief had been permanent. This produced a lengthy discussion about the sensitivity of skin tissue and further questions about the properties of anesthesia. Channing remained steadfast in his claims, though he did not convince the others. 68

In his medical lectures Channing boldly proclaimed the virtues of anesthesia while decrying physicians who continued to deny it to their patients. "The woman may inhale ether and both for the child and for herself the better will the labour proceed. Whether however she gets this help and solace will much depend upon the whim, the prejudice, or the jealousy of the medical attendant, male or female. I say jealousy because it really does seem that there is to some minds a fear that labour will not be painful enough to fulfil the prophecies or secure a good getting up." 69

His views about obstetrical anesthesia helped increase his business. Women whose physicians were unenthusiastic about anesthesia now asked Channing to attend them in childbirth and to bring along the necessary vapors. 70 Neither anesthesiology nor obstetrics was a medical specialty. Channing administered the anesthetic and delivered the baby, unlike the situation in which Nathan Cooley Keep's role was to anesthetize Fanny Longfellow and the midwife delivered the child. Since Channing did not insist on anesthesia with unwilling women, there was little danger of losing business. Though he did not experience maternal fatalities as a result of anesthesia, tragedies did occur in other physicians' practices, more frequently with chloroform than with ether. Skepticism remained. Even the example of Queen Victoria, who used chloroform in the birth of her eighth child in 1853, did not completely eliminate the opposition.

Channing's advocacy of anesthesia is his most important contribution to the practice of obstetrics. His was the vision to recognize the potential benefits of anesthesia as well as the wisdom to make a thorough study of the risks. His obligation, as he saw it, was to the women who need not "submit to a suffering which is unnecessary as it is . . . cruel." 71 Channing's endeavors, like those of Simpson, were the beginning of a long process of scientific and medical investigation that eventually included anesthesiology, neurology, and physiology and was meant to free women from the pain, anxiety, and fear that had previously accompanied childbirth.