May 13 1918

Dec. 11 1919

The anaesthesia Story

Relation to Bib. Prima.

When he began to write for 1846 vols of Bost. M. & S. Journal.

Letter to the Lancet 1914 regarding Simpson and Long.

Weston finally sends a batch of things in 1919.

Gould from his list, at the first printed documents relating to "modern surgical anaesthesia" which is the significant thing.

Then the final receipt from Ford & Head of vol XXXV begins Aug 5 1846 – Jan 27 1847
Vol XXXVI " Feby 3 1847 – July 28 1847
Vol XXXVII " Aug 4 1847 – Jan 26 1848

In vol XXXV occurs the following note

11 XII 1919 When the long looked for parcel containing these three volumes (XXXV XXXVI XXXVII) was opened this morning, Sir William asked me from his bed to put a note in the vol for 1846 – "All things come to those who wait, but it was a pretty close shave this time"!

A.M.

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Section of the History of Medicine.

President—Dr. RAYMOND CRAWFURD.

The First Printed Documents relating to Modern Surgical Anæsthesia.[1]

By Sir WILLIAM OSLER, M.D., F.R.S.

THE story of surgical anæsthesia illustrates how long it takes an idea to become effective. The idea of producing insensibility to pain during a cutting operation is of great antiquity—e.g., *vide* chapter ii, 21, in the Book of Genesis. Nor is the word anæsthesia modern, as is sometimes said, and invented by Oliver Wendell Holmes. It occurs, Withington tells me, first in Plato ("Timæus"), and is used by Dioscorides in the modern sense.

The extraordinary controversy which has raged, and re-raged every few years, on the question to whom the world is indebted for the introduction of anæsthesia, illustrates the absence of true historical perspective, and a failure to realize just what priority means in the case of a great discovery.

Why do we not give the credit to Dioscorides, who described both the general and local forms, or to Pliny, or Apuleius, or to Hiotho, the Chinaman, who seems to be next in order, or to the inventor of the Spongia somnifera, or to Master Mazzeo Montagna, in Boccaccio, or to any one of the score or more of men in the Middle Ages who are known to have operated on patients made insensible by drugs or vapours? Why do we not give the credit to Davy, who had the idea; or to

[1] Remarks made on presenting Morton's original papers to the Royal Society of Medicine, May 15, 1918.

Hickman, who had both idea and practice; or to Esdaile, who operated on hundreds of patients in the hypnotic state; or to Elliotson, who did the same; or to Wells, who, in 1844, operated under nitrous oxide; or Long, who frequently practised ether anæsthesia? Why? Because time out of mind patients had been rendered insensible by potions or vapours, or by other methods, without any one man forcing any one method into general acceptance, or influencing in any way surgical practice.

Before October 16, 1846, surgical anæsthesia did not exist; within a few months it became a world-wide procedure; and the full credit for its introduction must be given to William Thomas Green Morton, who, on the date mentioned, demonstrated at the Massachusetts General Hospital the simplicity and safety of ether anæsthesia. On the priority question, let me quote two appropriate paragraphs: "He becomes the true discoverer who establishes the truth; and the sign of the truth is the general acceptance. Whoever, therefore, resumes the investigation of neglected or repudiated doctrine, elicits its true demonstration, and discovers and explains the nature of the errors which have led to its tacit or declared rejection, may certainly and confidently await the acknowledgements of his right in its discovery" (Owen, "Homologies of the Skeleton," p. 26). "In science the credit goes to the man who convinces the world, not to the man to whom the idea first occurs" (Francis Darwin, *Eugenics Review*, 1914). Morton convinced the world; the credit is his.

Morton's original essays are among the *rarissima*, not existing, so far as I can ascertain, in any of the general or special libraries of this country. I have been looking for them in vain for many years. In a parcel of his father's papers recently received from William J. Morton, of New York, there were duplicates of "Letheon," and "On the Mode of Administration of Sulphuric Ether," which I have great pleasure in presenting to the Library. Also a duplicate copy of the *Boston Medical and Surgical Journal* of November 18, 1846, which contains the first printed account of the new procedure, by Dr. Henry J. Bigelow. In the same journal for December 9, Dr. J. Collins Warren (primus) gives an account of the operation at the Massachusetts General Hospital. These four papers stand out in the literature of surgical anæsthesia as fundamental, and truly epoch-making.

Morton called the drug "Letheon" and applied for Letters Patent to secure his rights—not an unethical procedure in the dental profession of America. This led to the publication of his first pamphlet called "Letheon," the bibliography of which some one should undertake.

The medium through which Dr. Morton communicated the results of experiments on etherization to the public, was a "circular" which he had printed, at his own expense, almost every week. It was at first, as its name imports, a mere letter of advice; but, as it became the receptacle of newspaper articles, and correspondence from every portion of the Union, announcing the success of etherization, it was necessarily enlarged into a large and closely-printed sheet of four pages. Soon this "circular" became a pamphlet, and of this five different editions were published, under Dr. Morton's immediate supervision, embodying a digest of all the authentic information, both from Europe and America, on "Anæsthesia" (Rice, "Trials of a Public Benefactor," 1859, p. 114).

The Index Catalogue, Surgeon-General's Library, only mentions a 14-page pamphlet, 1846, printed by Dutton and Wentworth, Boston. The early form of the circular may be seen on the back page of the *Boston Medical and Surgical Journal*, December 9. In the number for November 18, with Bigelow's paper, there is only an advertisement of Morton's courses of instruction in dentistry. The circular appeared first November 26, and is copied at pages 14 and 15 of the "Letheon" pamphlet, fifth edition. This pamphlet is made up of more than eighty short articles from medical journals and newspapers, and is of special value in giving the popular, first-hand impressions relating to the great discovery. There is very little of Morton's—only the circular already referred to, and, on page 16, the terms for the "Apparatus, a Bottle of the Preparation, Instruction, &c."

In 1847 Morton published a 44-page pamphlet on "The Proper Mode of Administering Sulphuric Ether by Inhalation" (Boston: Dutton and Wentworth), in which the original apparatus (now a treasured relic at the Massachusetts General Hospital), is described. In the early part of April he found that a sponge would serve the same purpose, and was less dangerous. The greater part of the pamphlet is taken up with general directions, the outcome of the author's experience.

The claims of Morton were very fully stated in a pamphlet published in Paris, 1847, with the title, "Mémoire sur la découverte du nouvel emploi de l'éther sulphurique," and in 1850 he published a small work "On the Physiological Effects of Sulphuric Ether and its Superiority to Chloroform," Boston. So far as I can ascertain, this completes his output on the subject of anæsthesia, except a posthumous pamphlet "On the Use of Ether as an Anæsthetic at the Battle of the Wilderness" (*Journal of the American Medical Association*, April 23, 1904).

The third item is No. 16 of vol. xxxv of the *Boston Medical and Surgical Journal* (then, as now, issued weekly) for November 18, which introduces to the profession modern surgical anæsthesia. Henry J. Bigelow, the distinguished surgeon, had been interested in Morton's private dental cases, and read a paper before the American Academy of Sciences, November 3, and at the Boston Society of Medical Improvement, November 9. It was called "Insensibility during Surgical Operation produced by Inhalation," and after referring to the early cases of Warren and of Hayward at the Massachusetts General Hospital, fuller details of the dental cases are given which he had seen with Dr. Morton. No small share of the early confidence inspired in the profession is due to this temperate statement by Dr. Bigelow, who fully realized the enormous value of the discovery.

In the literature of anæsthesia these are the three fundamental contributions. With them should be placed J. Collins Warren's account of the first operation, *Boston Medical and Surgical Journal*, December 9, and vol. xxxv of this publication, which contains some twenty-two papers on the subject, illustrating the rapid spread of the practice.

The opportunity here offers to suggest the arrangement of certain subjects in our libraries on an educational basis. For example, why should not the members of the Section of Anæsthetics of this Society collect and classify their literature on historical lines? Start with the documents that magnetized into life an antique practice—these pamphlets of Morton, Bigelow's paper, Warren's paper, and vol. xxxv of the *Boston Medical and Surgical Journal.* Put these together—all in vellum and lettered in gold—as the blastoderm from which the enormous literature has developed which could be arranged on the shelves in ten or more sections. The Index Catalogue of the Surgeon-General's Library has a good classification, but for my own collection I have used the following :—

(1) The general story, as given in such publications as the Jubilee numbers of the *British Medical Journal* and of the *Boston Medical and Surgical Journal*, and the text-books, in which the history of the subject is well given, as Snow, Foy, &c.

(2) Pre-ether period. On cards references to Gurlt's "Geschichte der Chirurgie," Bd. iii, p. 621, and vol. i of Simpson's works, from which sources most of the text-book and other descriptions are taken ; and to Dioscorides, Pliny and Apuleius, to the Spongia somnifera, to Boccaccio and the numerous other early writers. Brief descriptions could be written on the cards. Then in order would follow the works

of Davy, of Beddoes, the tragic story of Hickman, the remarkable documents relating to anæsthesia produced by compression of arteries, veins, and nerves, Bartholinus's use of cold for local anæsthesia, and the section would conclude with the writings of Esdaile and of Elliotson on hypnotism in surgery. What an education, even to glance at this literature in due sequence on the shelves!

(3) The modern period beginning with Morton, Wells and Jackson, the story of the miserable priority claims, the congressional reports, the publications of the Morton Association, the topical literature, showing the introduction of the practice into different countries, the Long literature, &c.

(4) In chronological order the subject of anæsthesia in midwifery, embracing everything from Simpson's original pamphlet to the latest popular magazine article on twilight sleep.

(5) Chloroform and its introduction. The papers of the discoverers, Guthrie, &c., the Simpson pamphlets, his famous "Encyclopædia Britannica" article dealing with the subject of anæsthesia under the word "Chloroform," which led to the sharp Bigelow-Simpson controversy, the Hyderabad Reports, the British Medical Association and other reports and documents.

(6) Local anæsthesia from Dioscorides and Bartholinus to Kohler, Corning, Halsted, Cushing, and others.

(7) Agents other than ether and chloroform, used for inducing anæsthesia, arranged in order of introduction.

(8) Technique, including the various methods of administration, intravenous, intratracheal, and the literature of apparatus.

(9) Physiology.

(10) Pathology.

I speak as an amateur. Doubtless expert members could easily arrange a more comprehensive scheme. To separate in literature the quick from the dead is one of the functions of a well-ordered library, but much that we carelessly regard as dead is magnetized into life when put in its historical relations. The plan here suggested, which could be applied in other directions, sustains that continuity, to the study of which this Section is devoted. You remember the rings of Lucretius —well, there is a *vis et vincula librorum*, binding together books, a force just as potent as the *vis et vincula lapidis*, which supported the rings; and in the literature of anæsthesia this force is derived from the works here presented to the Library.

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