

CRAWFORD WILLIAMSON LONG, THE  
PIONEER OF ANÆSTHESIA.

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(Concluded from p. 673.)

## Statement of Dr. Long.

THE following statement made by Dr. C. W. Long in 1849  
to the Medical Society of Georgia<sup>1</sup> is of great interest:—

For nearly three years the various medical journals have contained  
numerous articles on the employment of sulphuric ether by inhalation,  
for the purpose of rendering patients insensible to pain during surgical  
operations.

I was interrupted when I had written but a few lines and was pre-  
vented by a very laborious country practice from resuming my com-  
munication until the *Medical Examiner* for January, 1847, was received,  
which reached me in a few days after reading the December number.  
It contained several articles, giving accounts of different experiments in  
etherisation, in which surgical operations were performed without  
pain. On reading these articles I determined to wait for a few months  
before publishing an account of my discovery, and see whether any  
surgeon would present a claim to having used ether by inhalation in  
surgical operations prior to the time it was used by me.

A controversy soon ensued between Messrs. Jackson, Morton and  
Wells, in regard to who was entitled to the honour of being the  
discoverer of the anæsthetic powers of ether, and a considerable time  
elapsed before I was able to ascertain the exact period when the first  
operations were performed. Ascertaining this fact, through negligence  
I have now permitted a much longer time to elapse than I designed, or  
than my professional friends with whom I had consulted advised: but  
as no account has been published (so far as I have been able to ascertain)  
of the inhalation of ether being used to prevent pain in surgical opera-  
tions as early as March, 1842, my friends think I would be doing myself  
injustice not to notify my brethren of the medical profession of my  
priority of the use of ether by inhalation in surgical practice.

FIG. 4.

*Atlanta D. Hall Co. Geo.  
April 3<sup>rd</sup> 1853  
C. W. Long M.D.  
It affords me pleasure  
to certify & I do hereby affirm that I  
saw you perform an operation  
upon Mr. James M. Venable  
to wit the cutting out & removing  
of a tumor from the neck of the  
said James M. Venable.  
The operation was performed  
when Mr. Venable was under the  
influence of Sulphuric Ether produced  
by inhaling the same. I was  
intimate with Mr. Venable at  
the time of the operation; & after-  
wards frequently conversed with him  
upon the subject & he often told  
me that the operation produced  
no pain. The operation was performed  
in the Town of Jefferson Jackson  
County & State of Georgia in the  
year One Thousand Eight Hundred  
& Forty Two. Yours &c.  
Wm. H. Thurmond*

The first notice I saw of the use of ether, or rather of Dr. Morton's  
"Letheon," as an anæsthetic, was in the editorial of the *Medical  
Examiner* for December, 1846, in which the editor gives the following  
extract from a paper by Dr. H. J. Bigelow, contained in the *Boston  
Journal*. "The preparation (Letheon) is inhaled from a small two-  
necked glass globe, and smells of ether, and is, we have little doubt, an  
ethereal solution of some narcotic substance."

Having on several occasions used ether since March, 1842, to prevent  
pain in surgical operations, immediately after reading this notice of  
"Letheon" I commenced a communication to the editor of the *Medical  
Examiner* for publication in that journal to notify the medical pro-  
fession that sulphuric ether when inhaled would of itself render  
surgical operations painless, and that it had been used by me for that  
purpose for more than four years.

<sup>1</sup> This and copies of other documents were added as protocols to this  
original paper, but are not reproduced in the present article.

I know that my interests have suffered from not making an earlier  
publication, and I would not be persuaded at this late stage of the ether  
controversy to present my claim to being the first to use ether as an  
anæsthetic in surgical operations, if I were not fully satisfied of my  
ability to establish its justness.

## Account of First Two Operations.

Then follows Dr. Long's statement setting forth the chain  
of reasoning which led him to employ ether as an anæsthetic.  
We have already quoted this. Long continues:—

The first patient to whom I administered ether in a surgical opera-  
tion was Mr. James M. Venable, who then resided within two miles of  
Jefferson, and at present lives in Cobb County, Georgia. Mr. Venable  
consulted me on several occasions in regard to the propriety of  
removing two small tumours situated on the back of his neck, but

would postpone from time to time having the operations performed from dread of pain. At length I mentioned to him the fact of my receiving bruises while under the influence of the vapour of ether without suffering, and as I knew him to be fond of and accustomed to inhale ether, I suggested to him the probability that the operations might be performed without pain, and proposed operating on him while under its influence. He consented to have one tumour removed, and the operation was performed the same evening. The ether was given to Mr. Venable on a towel, and when fully under its influence I extirpated the tumour. It was encysted and about half an inch in diameter. The patient continued to inhale ether during the time of the operation, and when informed it was over seemed incredulous until the tumour was shown him. He gave no evidence of suffering during the operation, and assured me after it was over that he did not experience the slightest degree of pain from its performance. This operation was performed on March 30th, 1842.

The second operation I performed upon a patient etherised was on June 6th, 1842, and was on the same person for the removal of another small tumour. This operation required more time than the first, from the case of the tumour having formed adhesions to the surrounding parts. The patient was insensible to pain during the operation, until the last attachment of the cyst was separated, when he exhibited

miles from Jefferson. The boy had a disease of a toe, which rendered its amputation necessary, and the operation was performed without the boy evincing the least sign of pain. I present Mrs. Hemphill's statement of the report the boy gave her of the operation on his return home, which I conceive is sufficient on this point.

These were all the surgical operations performed by me during the year 1842, upon patients etherised, no other case occurring in which I believed the inhalation of ether applicable. Since 1842 I have performed one or more surgical operations annually on patients in a state of etherisation.

The question will no doubt occur, Why did I not publish the results of my experiments in etherisation soon after they were made? I was anxious, before making my publication, to try etherisation in a sufficient number of cases to satisfy my mind that anaesthesia was produced by the ether, and was not the effect of the imagination or owing to any insusceptibility to pain in the persons experimented upon.

At the time I was experimenting with ether there were physicians, high in authority and of justly distinguished character, who were the advocates of mesmerism, and recommended the induction of the mesmeric state as adequate to prevent pain in surgical operations. Notwithstanding thus sanctioned, I was an unbeliever in the science, and of the opinion that if the mesmeric state could be produced at all

FIG. 5.

*James Venable*  
To Dr. C. W. Long Dr  
1842.  
January 28<sup>th</sup> Sulphuric Ether 25-  
March 30 Ether & Excising tumour 2.00  
May 13 Sulphuric Ether 25-  
June 6 Excising Tumour 2.00

*Georgia*  
*Jackson County* I to J. Hinton  
Clerk of the  
Superior Court of said County  
do certify that the above account  
is a correct copy of an original  
entry made in his Book for  
Medical services for the year  
1842.  
Given under my hand  
& seal of office this 27<sup>th</sup> of March  
P. H. Hinton, Clerk S.



signs of slight suffering, but asserted after the operation was over that the sensation of pain was so slight as scarcely to be perceived. In this operation the inhalation of ether ceased before the first incision was made. Since that time I have invariably directed patients, when practicable, to continue its inhalation during the time of the operation.

Having so long neglected presenting my claim to the discovery of the anæsthetic power of ether, for the purpose of satisfying the minds of all of its justness, I have procured, I conceive, a sufficient number of certificates to establish the claim indisputably.

In Long's paper appear certificates from some of his patients as well as from eye-witnesses of the operation. Fig. 4 is a fac-simile of one of these.

#### Other Operations.

My third experiment in etherisation was made on July 3rd, 1842, and was on a negro boy, the property of Mrs. S. Hemphill, who resides nine

it was only on those of "strong imagination and weak minds," and was to be ascribed solely to the workings of the patients' imaginations. Entertaining this opinion, I was the more particular in my experiments in etherisation.

Surgical operations are not of frequent occurrence in a country practice, and especially in the practice of a young physician, yet I was fortunate enough to meet with two cases in which I could satisfactorily test the anæsthetic powers of each. From one of these patients I removed three tumours the same day. The inhalation of ether was used only in the second operation, and was effectual in preventing pain, while the patient suffered severely from the extirpation of the other tumours. In the other case I amputated two fingers of a negro boy. The boy was etherised during one amputation and not during the other; he suffered during one operation and was insensible during the other.

I have procured the certificates of the lady from whom the tumours were removed and of her husband, who was present and witnessed the

operations. These certificates were produced in preference to those establishing other operations, because they not only show that the experiments were continued from year to year, but also show that they were conducted so as to test the power of etherisation.

After fully satisfying myself of the power of ether to produce anaesthesia, I was desirous of administering it in a severer surgical operation than any I had performed. In my practice, prior to the published account of the use of ether as an anæsthetic, I had no opportunity of experimenting with it in a capital operation, my cases being confined, with one exception, to the extirpation of small tumours and the amputation of fingers and toes.

I have stated that ether was frequently inhaled in this and some of the adjoining counties for its exhilarating effects, and although I am conscious that I do not deserve any credit for introducing its use for that purpose, yet as others through their friends have claimed to be the first to show its safety, most of the certificates I have obtained establish the fact of its frequent inhalation for its exhilarating effects. I met with R. E. Goodman, who was present the night ether was first inhaled in Jefferson, and who removed to Athens, and introduced its inhalation in that place, and presented his certificate. All the young gentlemen who were present the night I first administered ether, with one exception, are living, and their certificates can be procured, if necessary.

I have now, in a very concise manner, presented a "plain unvarnished" account of some of my experiments in etherisation, and have said nothing of the comparative methods of ether, and other anæsthetics, because that was foreign to my present subject. Had I been engaged in the practise of my profession in a city where surgical operations were performed daily, the discovery would, no doubt, have been confided to others, who would have assisted in the experiments, but occupying a different position, I acted differently, whether justifiable or not. The result of my second experiment in etherisation was such as to lead me to believe that the anæsthetic state was of such short duration that ether could only be applicable in cases in which its effects could be kept up, by constant inhalation, during the time of the performance of the operation. Under this impression, up to January, 1847, I had not used ether, but in one case, in extracting teeth, and thus deprived myself of experimenting in the only class of cases which are of frequent occurrence in a country practice.

While cautiously experimenting with ether, as cases occurred, with a view of fully testing its anæsthetic powers, and its applicability to severe as well as minor surgical operations, others more favourably situated engaged in similar experiments, and consequently the publication of etherisation did not "bide my time." This being the case, I leave it with an enlightened medical profession to say whether or not my claim to the discovery of etherisation is forfeited, by not being presented earlier, and with the decision which may be made I shall be content.

The fac-simile of the original entry in Dr. Long's account-book of his charge made to the first patient, J. M. Venable, possesses interest (see Fig 5).

#### *Ether, 1842-1911.*

The narrative given by Long of his first administration of ether to a patient in 1842, that by Morton, which is more detailed, referring to his demonstration of the effects of æthereon on a patient in the Massachusetts General Hospital (1846), and that given in great detail of the first ether operation performed in a London hospital—viz., University College Hospital—when Liston operated, reveal the fact that very little was known about anæsthetics and less about methods. In the one case a towel was employed, in the other two a primitive inhaler, consisting of an ether chamber and a series of tubes connecting it with a face-piece.

After Simpson introduced chloroform at the end of 1847, ether, at all events in this country, was neglected in favour of the newer claimant, chloroform. The perils of the latter incident to the methods adopted in its exhibition soon led to fresh attempts being made to employ ether or some mixture of it and chloroform. The committee of the Royal Medical and Chirurgical Society in its report published in 1864 extolled ether's safety, but pointed out as its inherent drawback that the induction of anæsthesia by it was too slow for convenience. Then came the rational attempts of Clover, Ormsby, and many more to remove this disability by the use of closed inhalers. No practical attempt was, however, made to study a percentage method for etherisation. The very safety of the drug became its chiefest danger, since etherists were so obsessed by the fact that ether does not lower blood pressure or cause cardiac collapse through depression, that they failed to recognise the perils incident to over-stimulation, especially in æsthetic persons. The dangers of post-operative chest troubles were not existent in the pioneer days of ether because the operations performed were comparatively brief and the surgeons taught in pre-anæsthetic days prided themselves on their celerity in operating, and, indeed, were appraised by the public for this quality. To-day there is no haste, the advance of surgery has invaded the regions once immune from the knife; if ether is adopted for this wider range of operations it is necessary that methods of using it must follow on other than the traditional lines. To safeguard against excessive dosage we rely on mixed methods, such as the preliminary hypodermic injection of scopolamine, morphine, and atropine; we

adopt an open mask, evaporating from an enormously expanded area provided by many folds of gauze, and so obtain a more complete nebulation of our vapour; we introduce ether directly into the blood-stream in an artificial circulating fluid of physiological saline solution by intravenous infusion, with the hope of maintaining an equable and low-grade partial saturation of the neural tissue. In every case, we must remark, the supreme difference consists in the fact that we have replaced a method of excessive dosing by one of moderation and in most instances capable of rapid variation in the strength of ether employed. We have been too overborne by *a priori* reasoning, too obedient to traditional authority. Whether our newer methods may not introduce fresh dangers we cannot as yet say; if they do it will be probably because our technique is at fault, and this must be amended. It is startling when we think of the early workers to find the modern etherist safely and easily encompass anaesthesia with ether for tongue or jaw operations. Yet such is the case. By the intratracheal insufflation method now so efficiently carried out in America we find ether conveyed into the lungs without the inconveniences formerly incident to the method of introducing ether by oral inspiration. The experience gained gives promise of even more efficient plans of using ether, of saving life, and enabling the modern surgeon to perform his tasks, often almost daunting in their complexity and difficulty, without the added anxiety of an anæsthesia either imperilling the patient's life or necessarily imperfect owing to the patient's reaction towards the drug employed. If Long's work was the first step towards what we have achieved to-day, and it was so, to him we owe this much that we do his memory great and abiding honour. But we must realise, also, that anæsthesia to-day is on its trial, it must advance and trample on tradition and rely upon experiment unless we are content to forsake the hope of founding a science, and are willing to content ourselves with a mere handicraftsman's place in the ranks of the medical profession.

I desire to express my thanks to Mrs. Long Taylor, through whose kindness I have been furnished with documentary evidence of the accuracy of the facts I have advanced about her father, Crawford W. Long; also to Dr. George Foy, of Dublin, to whose unique knowledge of this matter and collection of memorials of Crawford Long I have been most generously made welcome.

## THE FINAL REPORT OF THE ROYAL COMMISSION ON VIVISECTION.

THIS long expected report has been reviewed in general terms already in our columns, but more detailed notice of it is due to our readers.

Since the Royal Commission on Vivisection was appointed on Sept. 17th, 1906, two of the Commissioners, Lord Selby (chairman) and Mr. John Tomkinson, have died. Mr. Tomkinson was not replaced, and Mr. A. J. Ram, K.C., succeeded Lord Selby in the chairmanship. The other surviving Commissioners are Colonel Lockwood, Sir William Selby Church, Sir William J. Collins, Sir John McFadyean, Sir Mackenzie Dalzell Chalmers, Dr. W. H. Gaskell, and Dr. George Wilson. The secretary, Captain Clive Bigham, retained his office throughout the inquiry.

The instructions to the Commissioners were: "To inquire into and report upon the practice of subjecting live animals to experiments, whether by vivisection or otherwise; and also to inquire into the law relating to the practice and its administration, and to report whether any, and if so what, changes are desirable." In carrying out their instructions the Commission held more than 70 meetings and examined a large number of witnesses, including representatives of the Royal Colleges of Physicians and Surgeons, and of the Royal Society, prominent exponents of medical research, representatives of antivivisection societies, and ministers of religion. They also considered papers from various official, medical, scientific, and other sources, bearing on the questions before them. They naturally consider, therefore, that the evidence before them has informed them concerning every class of opinion on the subject. The report as a whole is signed by every surviving member of the Commission; but Colonel Lockwood, Sir William Collins, and Dr. George Wilson append a memorandum of eight pages containing certain