Section of Anaesthetics

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MEETING TO COMMEMORATE THE CENTENARY OF THE DEATH OF JOHN SNOW

John Snow's London Associations

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London

The year 1858 is the centenary of John Snow's death and we pay tribute to the memory of one who rightly been called the first specialist anaesthetist. He died at the age of 45, a short life for our standards. Nevertheless, in his limited time, John Snow proved himself to have been an anaesthetist without equal, and also a brilliant epidemiologist. He carried on an investigation into the causation of a cholera epidemic which was not only an invaluable contribution towards the control of that scourge but was also a clinical example of how such researches should be made [1, 2].

There are many ways in which the work of recounting Snow's great qualities could be approached and I propose first to consider the various societies and establishments to which Snow belonged and then to renewise the memories which remain to his honour.

John Snow arrived in London in the autumn of 1836 having travelled from his home in York by a meandering route; he with Aunt to Liverpool and then proceeded on foot by North and South Wales and Bath. In London he enrolled at the famous Hunterian School at Great Windmill Street. A year later he became a student at the Westminster Hospital, recently installed into its new building in the Broad Sanctuary, across the road from the West Door of the Abbey.

On May 2, 1838, Snow satisfied the examinations and was enrolled as a Member of the Royal College of Surgeons. He looked for a house-appointment at his Hospital but discovered that there was a regulation requiring candidates to have "passed Apothecarists' Hall", and the struggle went. He took his examination but by the time that had been done it was October and all the house-rooms were filled. He therefore went straight into practice and put up his plate at 54 Trill Street, Soho, a short distance from his student lodgings at 11 Hatton's Buildings.

At first, unexpectedly, he had much time to spare, and he occupied part of it in a clinical attending at the neighbouring Charing Cross Hospital. He also took the opportunity to read in the library of the College of Surgeons where it was later said of him that he had been 'a quiet man who read slowly and was not too proud to ask for a translation when an original bothered him'. The reading he had to do was put to good purpose; for in 1841 he took the M.B., B.S. of the new University of London and in 1844 his name appears in the First Division of the M.D.

Such then was the Metropolitan scholastic career of John Snow, remarkable for its wide scope—the Hunterian School, the Westminster Hospital, the College of Surgeons, the Society of Apothecaries, Charing Cross Hospital, and the University of London. We must also...
recall the basis on which this achievement was founded—deiphenepen to Mr. Harding of the Newcastle Infirmary where Snow's name appears in the first list of students in the Newcasle Medical School and the work as general assistant first to Mr. Watson of London and later to Mr. Murchton of London, and to Mr. Warburton of Paddington Bridge.

As a young doctor with ideas of Snow, of course, one was at the head of a forum in which to express them: and this he found in the Westminster Medical Society. Richardson [3], Snow's friend and immediate biographer, tells us that "it was at the Westminster Medical Society that Snow spoke to the point he found difficult to obtain favorable notice. At first nobody replied to what he had said. After a while some grave counsellor condescended to refer to the 'last speaker.' Then someone held back 'concerned with Mr. Snow'..." At this sounds very natural and to it must be added Snow's own later view that "upon this early connexion with the Westminster Medical depended his connection in London and all his succeeding scientific success".

In 1849 the Medical Society of London was re-organized to include the Westminster Medical Society. In 1852 Snow was the Oyester of the new joint society; he spoke on "Continuous Molecular Changes more particularly in Relation to Epidemic Disease" [4]. In March 1855 he was inducted as President and visitors to the Society's rooms in Chandos Street may find his name in the list of Presidents which adorns the plinths of the meeting-room.

Other learned bodies which had the honour of numbering Snow among their members were the Edinburgh Medical Society, the Pathological Society, The British Medical Association, and the Royal Medical and Chirurgical Society, foremothers of the Royal Society of Medicine. Those to whom he was most closely attached, however, appear to have been the Medical Society of London and the Epidemiological Society.

Snow's earliest anesthetic administrations were to the Dental Out-patients at St. George's Hospital and they were so successful that he was almost immediately asked to anesthetize for major surgery. His first in-patient case was one of extirpation of the ankle joint and the operation took place on January 14, 1847. Very shortly afterwards he was invited to demonstrate his methods at University College Hospital, where in December 1846, Litton had performed the famous thigh amputation under ether anesthesia. Litton was at this time the last months of his life and it is said that he was very much pleased by Snow's manner, by his methods and by their success.

Snow's work at these two hostis is recorded in his book "On the Inhalation of the Vapour of Ether in Surgical Operations" [5], which he published in September 1847, less than a year after the introduction of ether at Boston.

Probably the most successful and certainly one of the most active surgeons in London in the 1850s was Mr. Sir Wiliam Fitzpatrick. Snow became an anethotist both in private and at King's College Hospital, where he is the Aldwyth. We read in his case reports that he was also used in on occasion to Charing Cross Hospital, St. Mark's Hospital, the Orthopedic Hospital and St. James's infirmary; an almost uncevated line. In addition he also worked for a period of twenty years at the Brompton Hospital, London, observing the effects of various drugs when given by inhalation. The drugs he tried include morphine, strychnine, hydrocyanic acid and "cousin" and his findings were reported in at the meeting of the Medical Society of London in 1851 and published in the London Journal of Medicine [6].

In the year 1845 Snow had been ill with signs of renal disorder. On his return from a holiday in the Isle of Wight he was appointed Lecturer in Forensic Medicine at the Alderney School of Medicine. This establishment and been opened with the idea of attracting the students of St. Bartholomew's Hospital, but its relations with that hospital seem to have been neither very close nor very happy. The School collapsed in 1847 and Snow with the other teachers was held responsible for the financial deficit which appeared.

It is of interest to note that the hospitals at which Snow was taught were those of Newcasle, Westminster and Charing Cross. Those at which he was regular anesthetist were St. George's, University College and King's College.

Of the memorials that still remain to us of John Snow the most important are his two memoirs on "On the Mode of Communication of Cholera" and "On Chloroform and Other Anaesthetics". The "Cholera" was published in its full form in 1853 being largely based on a pamphlet he wrote with the above quotation. The proof of its quality is to be seen in its re-publication in 1933 by the Commonwealth Fund of America followed by second republication in 1985. The "Chloroform" and the sad story of its all-but-complete by Snow's hand is familiar to all.

Other memorials record his last resting place, and the various places where he lived.
Snow's tombstone in the Krompton Cemetery, and successive inscriptions recount its history:

TO JOHN SNOW, M.D.  
BORN AT YORK  
MARCH 15th, 1813  
DIED IN LONDON  
JUNE 16th, 1858  
IN REMEMBRANCE OF  
HIS GREAT LABOURS IN SCIENCE  
AND OF THE EXCELLENCE  
OF HIS PRIVATE LIFE AND CHARACTER  
THIS MONUMENT  
(WITH THE ASSENT OF  
MR. WILLIAM SNOW)  
HAS BEEN ERECTED OVER  
HIS GRAVE  
BY HIS PROFESSIONAL BRETHREN  
AND FRIENDS.  
RESTORED IN 1895  

In 1897 a distinguished American anesthetist was in London and requested Professor Sir Robert Macintosh to take him to see the grave. They found the stone somewhat dilapidated. A small fund was at once organized for its repair, and the following words were added:

INSCRIPTION RESTORED IN 1938 BY MEMBERS OF  
THE SECTION OF ANESTHETICS OF THE ROYAL  
SOCIETY OF MEDICINE AND ANESTHETISTS IN  
THE UNITED STATES OF AMERICA.

In April 1941 a bomb fell very close to the tombstone, which was not a very solid structure, and the explosion caused in almost complete disintegration. Ten years later the Association of Anesthetists raised a fund and replaced the original by a solid block of Portland stone. A new stone with a further appropriate inscription on its base was unveiled by Miss Nina Snow on September 6, 1951.

In 1946 the cenotaph of other anesthetists was celebrated, and a commemorative plaque was then installed at the Royal College of Surgeons. The building bearing on it the names of the four British pioneers of the art and science of anesthesia—Hickman, Simpson, Snow and Chev. In his later years Snow lived at 18 Sackville Street, a house now given over to commercial use, and on which, in 1949, the London County Council put up a commemorative plaque. A letter written by Snow from that address to the Secretary of the Royal Institution exists. It reads—"Dear Sir, I am sorry that you are out of town and can not attend the operation, but I shall have much pleasure in calling on you at two o'clock on Friday next in order to administer chloroform and prevent you from having the pain of the operation. Yours very truly, John Snow." This letter found its way back from Albermarle Street to Sackville Street to the shop of Sothran the bookseller, and is now in the Library of the Medical School of St George's Hospital at Hyde Park Corner.

Next we come to a somewhat less happy memorial. The site of the famous Broad Street Pump is now occupied by a tavern, known for many years as the "Newcastle-on-Tyne." In 1856, the centenary of the famous cholera epidemic, it was suggested to the L.C.C. that a plaque should be erected. The Council pointed out that such a memorial had already been erected in Sackville Street. The owners of the hostelry came forward, however, and decided to re-name it the "Doctor John Snow" and at the next Brewster sessions this was done. The Snow family, however, were far from pleased at this and considered that it was casting a slur on the great man's memory, for he had maintained a life-long devotion to the cause of temperance. Unfortunately, the protest came too late and the inn in Broadwick Street (as Broad Street is now called) is the "Doctor John Snow" complete with painted sign.

Finally, there is the Snow Medal instituted by the Association of Anesthetists and awarded to those who by their personal distinction have brought honour to the specialty.
John Snow’s tookplate carried his motto—"Never, at Sivall!" He lived a hundred years ago; his fame is higher and more widespread to-day than it has ever been; and his name will be revered as long as there is a science of Public Health and as long as there is an art of sanitary administration.

REFERENCES
3 (1858) On Cholera and Other Anaesthetics: Their Action and Administration. Edited, with a Memoir of the Author by Benjamin W. Richardson. London.
4 (1863) On the Contagion of Molecular Changes, More Particularly in Their Relation to Epidemic Diseases. Being the Address delivered at the 80th Anniversary of the Medical Society of London. London.
5 (1867) On the Infection of the Vapour of Ether in Surgical Operations: Containing a Description of the Various Stages of Intoxication, and a Statement of the Result of Nearly 80 Operations in which Ether has been employed in St. George’s and University College Hospitals. London.

John Snow and the Enlightenment
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At the centenary of John Snow’s death, we realize that his achievement is recognizable, even when placed beside the vast knowledge of medicine which has since accumulated. It appears even greater when placed in its true setting—the work and ideas of the era in which he lived.

Snow, born in 1813, was a child of the period which is called the "Enlightenment", which may be considered to have begun in 1754 with the presentation, by Joseph Black, of his doctoral thesis, "On Magnesia Alba and Other Alkaline Substances"; and which came to an end on October 16, 1846, when Moxon demonstrated that anaesthesia with ether was a practical reality.

The advances of the "Enlightenment" were not only obvious medical improvements. The work of Priestley, Lavoisier, Avogadro and Lavoisier did little at the time to improve the lot of the patient, while the discovery of vaccination, important as it was, did not lead to any understanding of the processes of disease. At the time of Snow’s birth, the only specific curative drugs known were quinine (malaria), opium and alcohol (opium addiction) and mercury (syphilis). The many other drugs in the pharmacopoeia were of symptomatic benefit only, or of no use at all.

The doctors were ignorant of the cause of disease. Fraenkel, in 1546, had laid down the basis of contagion and infection, and Kircher, in 1658, had attributed plague to an invasion of the body by micro-organisms, but all this had been forgotten. When the overholt of the classical ideas by such men as Galileo and Newton, the humeral theory of disease was also discarded, but there was nothing to put in its place.

The doctors of John Snow’s period were too materialistic to lay the blame for disease upon God, and they were forced, therefore, to admit their ignorance. Consequently, the patients lost faith in their doctors, and the doctors lost faith in themselves. Nor were the doctors in a position to investigate the cause of disease scientifically, for each branch of surgery was cut off from its fellows by an almost complete lack of societies and scientific journals. With communications depending on the horse and the sailing-ship, the doctor was separated by an immense gulf from advances, seen only in general science, but also in his own, particular subject. The doctor, therefore, had to look for the cause of disease within the small horizon which his own eye commanded, and, in this, he was often misled by his ignorance of statistics. These were first successfully employed in the cause of medicine by Louis Pasteur, in 1835, he demolished the theory of spontaneous generation, that breeding was a suitable remedy for pneumonia.

Naturally, therefore, many doctors constructed for themselves their own systems of medicine, such as Brodmann, who decided that gastro-enteritis was the cause of all disease, Cruveilhier, who blamed plague, and Cullen with his theory of nervous irritation.