There is not much credit in the mere acts of living and dying; in being driven by unavoidable fate through the common journey, with shoulders uncovered and the whip over them; in doing nothing save the drudgery of existence; in enjoying, in an approach to the recognition of enjoyment, the brief dreams of childhood; in struggling into manhood; in battling through the after-strife obedient to the castigator behind; and in dying at last, as though life had never been; dead to-day, wept for to-morrow, and forgotten by the morrow's succeeding sun. There is not much credit in this surely, for credit must be earned by something done beyond that which all must perforce do. But, in the face of all the struggles incidental to the existence, so to have managed as to have stolen out of time hours which other men knew not in their calendar—so to have defied the inexorable taskmaster as to perform more than is included in his demands; so to have willed and acted as to live on when death has done his worst; to assist all coming wayfarers in their conflict wherever they may meet it; to prove that there is something more in life than labour lost, and nothing more in death than an idea—Hoc opus hic labor est—in this there is achieved the grand attainment; the perpetual life.

He whom I, with poor biographer's pencil, put forward now in brief sketch, is one amongst the few
who have thus realized the ideality of death. It were but little matter, therefore, though no biography should appear at all; it is of but little count that such biography, as the recollections of friends and intimates shall call forth, be scanty in its details; it is of but little count that the life of him who is to be shadowed forth is destitute of incident fitted for the taste of wonder-loving, passion-courting, romance-devouring, readers. Biographies for these are common. Good men are scarce.

John Snow, the subject of the present memoir, was born at York, on the fifteenth day of June, 1813. He was the eldest son of his parents. His father was a farmer. His mother, who is living, resides still at York. As a child, he showed his love of industry; and increasing years added only to the intensity with which he applied himself to any work that was before him. He occasionally assisted his father in agricultural pursuits, and often in later life spoke with great naïveté of the recollections of those early winter mornings when his boy's fingers were too intimately to be pleasantly acquainted with the effects of benumbing cold. He was first sent to a private school at York, where he learned all that he could learn there. He was fond of the study of mathematics, and in arithmetic became very proficient. At the age of fourteen, he went to Newcastle-on-Tyne, as an apprentice to Mr. William Hardcastle, surgeon, of that place. He had also the opportunities of studying at the Newcastle Infirmary. During the third year of his apprenticeship, viz., when he was seventeen years old, he formed an idea that the vegetarian body-feeding faith was the true and the old; and with that consistency which throughout life attended him, tried the system rigidly for more than eight years. He was a noted swimmer at this time, and could make head against the tide longer than any of his omnivorous friends. I have
heard him tell that so long as he continued to qualify his vegetables with milk and butter, the vegetarian plan supported him fairly. But on one unfortunate morning, when taking his milk breakfast, some quizzical friend, learned in botany, cross-examined him as to the vegetable on which he was then feeding. The joke went home; and the use of milk, as food for a pure vegetarian, became too absurd for consistency. The milk, therefore, must be put aside, and the butter and the eggs. The experiment did not answer; the health of our pure vegetarian gave way under the ordeal, and although in after life he maintained that an approach to the vegetarian practice was commendable, in that it kept the body in better tone for the exercise of the mind, he admitted that in his own case his health paid the forfeit of his extreme adherence to an hypothesis. Amongst his earlier scientific readings was a book in defence of the vegetable regimen by John Frank Newton. This book is annotated by himself, 1833. It is an useful book, full of curious arguments, facts and suggestions, many of which, as his own after writings indicate, he had carefully studied and applied.

At or about the same time that he adopted his vegetarian views, he also took the extremity of view and of action, in reference to the temperance cause. He not only joined the ranks of the total abstinence reformers, but became a powerful advocate of their principles for many succeeding years. In the latter part of his life, he occasionally and by necessity took a little wine, but his views on the subject remained to the end unchanged; he had strong faith in the temperance cause, and a belief that it must ultimately become an universal system.

In 1831-32, cholera visited Newcastle and its neighbourhood, and proved terribly fatal. In the emergency, Mr. Snow was sent by Mr. Hardcastle to the Killingworth Colliery, to attend the sufferers from
the disease there. In this labour he was indefatigable, and his exertions were crowned with great success. He made also on this occasion many observations relating to this disease, which proved to him of immense account in after years.

He left Newcastle in 1833, and engaged himself as assistant to Mr. Watson of Burnop Field, near Newcastle. Here he resided for twelve months, fulfilling the assistant duties; regarding which it can only be said, and that from analogy, that they were neither without their anxiety nor their reward. Leaving Burnop Field in 1834-5, he revisited his native place, York; made a short stay, and thence to a certain half-inaccessible village called Pately Bridge, in Yorkshire, to assist it with Mr. Warburton, surgeon there. Some few years ago a friend of mine went to the same village, by the recommendation of Dr. Snow, as assistant to the present Mr. Warburton of that place, a son of Dr. Snow's "old master". The circumstance of this recommendation often led Dr. Snow to refer to his life at Pately Bridge in our conversations. He invariably, on such occasions, spoke of Mr. Warburton, his "old master", in terms of sincere respect, and depicted his own life there with great liveliness. He was a vegetarian then, and his habits puzzled the housewives, shocked the cooks, and astonished the children. His culinary peculiarities were, however, attended to with great kindliness. Eighteen months at Pately Bridge, with many rough rides, a fair share of night work, a good gleaning of experience, and this sojourn was over. Now back again went our student to York, to stay this time a few months, and—not to be idle—to take an active share in the formation of temperance societies. In leisure days during this period it was his grand amusement to make long walking explorations into the country. In these peregrinations he collected all kinds of information, geological, social, sanitary, and architectural.
At last York must be again left; the London student life was in view. In the summer of the year at which we have arrived, 1836, he set off from York to Liverpool, and, trudging it afoot from Liverpool through the whole of North and South Wales, turned London-ward, calling at Bath by the way, on a visit to his uncle, Mr. Empson, to whom, to the end of his life, he was devotedly attached. October 1836—eventful October—brought him to the “great city”, and placed him on the benches of the Hunterian School of Medicine in Windmill-street: a school long since closed, and now almost a myth; like the mill which gave the name to the locality.

I am indebted to the courtesy of Mr. Joshua Parsons of Beckington, near Bath, for an insight into the life and manners of my beloved friend during his student career. Mr. Parsons had the happiness to be the special fellow-student of Snow. Their friendship, cemented early in life, never declined, but had added to it, “on my part,” says Mr. Parsons, “respect and admiration for the solid talents and industry of my old colleague.” Speaking of their common labours, Mr. Parsons writes as follows:

“Our acquaintance commenced in 1836, at the Hunterian School of Medicine in Windmill-street, where we were both dissecting at that time. It happened that we usually overstayed our fellows, and often worked far on into the evening. The acquaintance thus grew into intimacy, which ended by our lodging and reading together. We were constant companions from that time till I left town, in October 1837. During that period Dr. Snow was, as a student, characterized by the same mental qualities which have marked him ever since. Not particularly quick of apprehension, or ready in invention, he yet always kept in the foreground by his indomitable perseverance and determination in following up whatever line of investigation was open to him. The
object of this steady pursuit with him was always truth: the naked truth, for its own sake, was what he sought and loved. No consideration of honour or profit seemed to have power to bias his opinions on any subject. At the period of our co-residence he was a strict vegetarian, and many and great were the controversies held between us on the subject. These led to trials of our comparative strength and endurance, in one of which, on Easter Monday 1837, we walked to St. Alban’s, and back to town through Harrow,—a distance, I believe, of rather more than fifty miles. On reaching the Edgeware Road, my companion was fairly beaten, and obliged to reach home in an omnibus. But though this, you will say, shows a fair amount of strength, yet it was my impression that my friend’s constitutional powers were impaired by his mode of living, for I observed that he suffered from an amount of physical excitability not to be looked for in a man of his bodily powers and placid mental organization. I remember, on two or three occasions, so slight an injury as a cut of the finger with a dinner knife, or a graze of the skin, producing such an amount of fever, attended by so rapid a pulse, and so intense a flush upon the cheeks, that I once asked the opinion of an experienced medical friend about him, and was by that opinion alone restrained from summoning his uncle to his bedside. He also was subject to great drowsiness, so that he was obliged often to close his books, and retire to bed long before his inclination would have led him to do so.

In October 1837, Mr. Snow took out his hospital practice at the Westminster Hospital. On May 2nd, 1838, he passed his examination, and was entered duly as a member of the Royal College of Surgeons of England. He lived at this time at 11, Bateman’s Buildings, Soho-square.

In July 1838, Mr. Thurnham having resigned his
post of apothecary to the Westminster Hospital, Mr. Snow, with much promise of support from the medical staff, competed for the vacant post. He presented excellent testimonials from Mr. Hardcastle, Mr. James Allen of York, Dr. Conquest, Mr. W. B. Lynn, Surgeon to the Westminster Hospital, Mr. Anthony White, Sir Anthony Carlisle, Mr. Warburton, and Dr. Hunter Lane. His canvass was very satisfactory; but he was compelled to resign his claims from a cause which he did not expect. By the laws of the hospital, the office of apothecary could only be held by a member of the Apothecaries' Company. In those days the worshipful Company were sometimes lenient in admitting students to examination. The leniency, however, clearly extended to those only who had friends at court. To render himself eligible, Mr. Snow addressed a very simple, earnest, and gentlemanly request to the Court of Examiners of the Apothecaries' Company, begging to be allowed to go up to his examination at the second court in July instead of the first in October, at which he was legally admissible. The request, under the circumstances, was not very great; but for some reason it met with refusal. After the refusal he addressed a second note to the Court, equal in tone with the first. In this note he urged the simple character of the request; he reminded the sapient body that they had allowed a similar extension of privilege to that asked by himself to others, and even for less important reasons. He explained that he had attended the practice of the Newcastle Infirmary; and promised that if he could be admitted, he would fulfil the required term of hospital curriculum rigidly. Lastly, he stated the expenses into which the canvass had led him, and once more prayed for leniency of the examiners, from “confidence in their kindness.” The confidence was misplaced. The Blackfriars Shylocks demanded the pound of flesh;
and our disappointed student, on the very eve of success, was compelled to relate his discomfiture in the following address:

"To the Governors of Westminster Hospital.

"My Lords, Ladies, and Gentlemen,

"I became a candidate for the vacant office of Apothecary to the Hospital a little before my term of study was completed, expecting that the Court of Examiners of the Apothecaries' Company would admit me for examination in time for the election, knowing that they had granted a similar boon to my fellow-students on less important occasions. I have asked the favour of that Court with all due respect and ceremony, showing them that my course of study had already been twice as long as they require; and they have refused to examine me till my last item of study was completed according to their own peculiar curriculum, without stating any reason for their refusal. I must therefore necessarily resign, which I beg most respectfully to do, and to offer my sincere thanks to all those who have taken trouble in my behalf."

On the first Court of October 1838, held on October 4th of that year, Mr. Snow met the Blackfriars Shylocks by legal right. They had not forgotten him, and gave him good proof of their remembrances. He passed, however, safe and sound; and, having the double qualification, laid himself out for the duties of a general practitioner in medicine in the great city.

At this time there existed in London a society (now sunken into the "Medical Society of London") called the "Westminster Medical Society." It was a society which had long given encouragement to those junior members of the medical profession who might wish for a hearing at its meetings and debates. Mr. Snow was not the man to lose an opportunity such as this. I have often heard him say, both privately and publicly, that, upon this early connexion with the "Westminster Medical," his continuance in London
depended, and all his succeeding scientific success. When he first attended the meetings of the “Westminster Medical,” he was very timid; and although he always spoke to the point, found it difficult to obtain a favourable notice. At first, as he told me, nobody ever replied to what he said. After a long time some grave counsellor condescended to refer to him as the “last speaker.” “In reference to an observation made by the last speaker, Mr. President, I could bring forward many practical objections; but I prefer to observe on the admirable, and, I have no hesitation in saying profound, remarks which Dr. Goldstick” (a very great gun, of course) “has done us the favour to lay before the society.” A little later and somebody ventured to name the “last speaker” even by his name. Then some one, bolder still, concurred with Mr. Snow; and ultimately Mr. Snow became recognized more and more, until, as we shall see in the sequel, the presidential honours were his own.

Frith-street, Soho-square, No. 54, was the house at which Mr. Snow, to use his own words, first “nailed up his colours”. He removed from Bateman’s Buildings in the beginning of September 1838, and became, in Frith-street, the tenant of Mrs. Williamson, widow of Captain Williamson, known as the author of several works on India. He bought no practice, nor exhibited any pretence. Like mighty Columbus, his caravel was very insignificant when compared with the voyage on which he embarked, and through which he sailed so successfully. He did not find the voyage very smooth either at first. How could he? A man cast at large in the modern Babylon, with few introductions, no plethora of purse, and great purposes in hand, need never ignore the necessities from the idea of rising to the crest of the wave by three cheers and a long pull. Snow was too foreseeing to be ignorant of this, and he prepared accordingly. A more thoroughly girded man for the world’s en-
counter could hardly be conceived than he at this time. He took no wine nor strong drink; he lived simply of the simple, on anchorite's fare, with more than anchorite resolution, with the temptations of the world always before him; he clothed plainly, and made the best of everything; he kept no company, and found every amusement in his science books, his experiments, in his business, and in simple exercise.

To fill up time till the money patients should come, he became one of the visitors of the out-patients of Charing Cross Hospital; and to many a poor representative of the great half-starved, extended a skill which would have been a blessing to a duke. The Librarian of the College of Surgeons' Library knew him as a quiet man, who read closely, and was not too proud to ask for a translation when an original bothered him. All who knew him said he was a quiet man, very reserved and peculiar—a clever man at bottom perchance, but not easy to be understood and very peculiar.

The connection with the "Westminster Medical" led to Mr. Snow's first attempts at authorship. On October the 16th, 1841, he read at the Society a paper on "Asphyxia and on the Resuscitation of new-born Children." The paper in full will be found in the London Medical Gazette for November the 5th of the same year. The paper is remarkable for the soundness of its reasonings, and the advanced knowledge which it displays. The object of the paper was to introduce to the Society a double air-pump, for supporting artificial respiration, invented by a Mr. Read, of Regent Circus. The instrument was so devised that by one action of the piston, the air in the lungs could be drawn into one of the cylinders, and by the reverse action, the said air could be driven away, and the lungs supplied with a stream of pure air from the second cylinder. There was also advanced, in the concluding part of the
communication, a sentence or two on the cause of the first inspiration, which is well worthy of note. The cause of the first inspiration, he explained, is probably the same as the second or the last, viz., a sensation or impression arising from a want of oxygen in the system. So long as the placenta performs its functions, the foetus is perfectly at ease, and feels no need of respiration; but whenever this communication between the child and its mother is interrupted, at least in the later months of pregnancy, the child makes convulsive efforts at respiration similar to those made by a drowning animal.

On December the 18th, 1841, Mr. Snow was again before the “Westminster Medical” with a very ingenious instrument which he had invented for perfor- ming the operation of paracentesis of the thorax. The description of the instrument will be found in the Medical Gazette of January 28th, 1842.

In the Medical Gazette for November 11th, 1842, Mr. Snow published a note on a new mode for securing the removal of the placenta in cases of retention with haemorrhage; and in the same journal for March 3rd, 1843, he communicated an essay on the circulation in the capillary vessels. The essay was selected and rearranged from papers read before the “Westminster Medical” on January 21 and February the 4th. We have in this essay an admirable sketch of the capillary circulation. He advanced, on this occasion, the idea that the force of the heart is not alone sufficient to carry on the circulation, but that there is a force generated in the capillary system which assists the motion. He explained also the great importance of the cutaneous exhalation, and reasoned that in febrile states, accompanied with hot skin, the transpiration from the skin is in reality greater than is normal, and that the good effect of poultices and similar applications to inflamed skin is due to their influence in checking the transpiration from the affected part.
But what of practice during all this work at the purer science of medicine? The story to be told is an old one. Practice did not come, at least not from the wealthy. He had plenty of practice in so far as seeing patients was concerned certainly, for he was encumbered with four sick clubs; and his club practice, together with the out-patient work at the Charing Cross Hospital, kept the bell ringing all day, and not unfrequently enlivened the night with the clamorous music. But the patients with the fees in their hands kept at a respectful distance. Why? The answer gives another old story—because the practitioner at 54, Frith Street, Soho, was an earnest man, with not the least element of quackery in all his composition, with a retiring manner and a solid scepticism in relation to that routine malpractice which the people love. I have heard many reasons alleged for the want of success which attended Mr. Snow's first labours as a claimant on the public confidence. These reasons have all had one reading, in that they refer to every cause but the true one. The true cause was, that a young man having no personal introduction to the bedsides of dowagers of the pill-mania dynasty, sought to establish his fame on the basis of a sound and rational medicine—because impressed with the knowledge of the external origin of disease, he went in for the removal of external causes, and studied nature in preference to the Pharmacopoeia.

Pushing on in the higher branches of his profession, and aiming always at the best, the degree of the University of London became a temptation, and Mr. became Dr. Snow on the 23rd of November, 1843, by passing the M.B. examination. He was enrolled in the second division on this occasion. On the 20th of December in the following year, he passed the M.D. examination, and came out in the first division of candidates.

The harass of London life by this time commenced
to tell on Dr. Snow. He had suffered a few years previously from threatened symptoms of phthisis pulmonalis, but took plenty of fresh air, and recovered. He again became slowly unhinged for work, and in the summer of 1845, was attacked with acute and alarming symptoms of renal disorder. His friend and neighbour, Mr. Peter Marshall, then of Greek Street, now of Bedford Square, gave him his able assistance, and the advice of Dr. Prout, and, I believe, of Dr. Bright, was obtained. He was induced by their general opinion to change his mode of living, and even to take wine in small quantities. In the autumn of 1845, he paid a visit to his friend and old colleague, Mr. Joshua Parsons, at Beckington, with whom he stayed a fortnight, enjoying himself very much. The friends resumed their old controversies, and the Doctor admitted that he had been obliged to relinquish his vegetable diet in favour of a mixed regimen. He improved greatly, says Mr. Parsons, during his stay; but it was obvious that London life and hard study had hold of him. From Beckington he went to the Isle of Wight, but soon returned to London and to his work. A little after this, he was elected Lecturer on Forensic Medicine at the Aldersgate School of Medicine, and held the appointment till the establishment dissolved in 1849. I have often heard from him, in his quiet droll way, many laughable stories in relation to his duties in the forensic chair. When he left off teaching, he found that, in addition to the labour implied and the cost of experiments, he had to pay, with the rest of his colleagues, a ransom for his release.

There is no night without its morning. The eventful medical year of 1846 proved the turn of tide season with our struggling Esculapian. In this year, the news came over from America that operations could be performed without pain under the influence of sulphuric ether.
The fact was just such an one as would at once attract the earnest attention of Dr. Snow. It was a physiological, as well as a practical fact. It was rational in its meaning, and marvellously humane in its application. The question once before him, was in a scientific sense his own. His previous experimental studies on respiration and asphyxia had prepared him for this new inquiry. He lost no time, therefore, in investigating the new fact; he took it up for its own sake, however, not from any thought, at the time, of a harvest of gold.

The first inhalations of ether in this country were not so successful as to astonish all the surgeons, or to recommend etherization as a common practice. The distrust arose from the manner in which the agent was administered. Dr. Snow at once detected this circumstance; and, as he explains in the pages of the work now in the hands of the reader, remedied the mistake by making an improved inhaler. He next carried out many experiments on animals and on himself, and brought the administration to great perfection. One day, on coming out of one of the hospitals (I am giving the narrative as he gave it to me), he met Mr. —— (a druggist whom he knew) bustling along with a large ether apparatus under his arm. "Good morning!" said Dr. Snow. "Good morning to you, doctor!" said the friend; "but don't detain me, I am giving ether here and there and everywhere, and am getting quite into an ether practice. Good morning, doctor!" "Good morning to you!" Rather peculiar! said the doctor to himself; rather peculiar, certainly! for the man has not the remotest chemical or physiological idea on the subject. An "ether practice!" If he can get an ether practice, perchance some scraps of the same thing might fall to a scientific unfortunate." Consequently, with his improved inhaler, Dr. Snow lost no time in asking to be allowed to give ether at St. George's Hospital. He got per-
mission to give it there to the out-patients, in cases of tooth-drawing. Dr. Fuller, of Manchester-square, standing by, was surprised to see with what happy effects ether was administered when administered properly. A day or two afterwards, an operation having to be performed, and the surgeon (I believe, Mr. Cutler) not approving of the ether in the way in which it had previously acted, Dr. Fuller remarked on the superiority of Dr. Snow's mode of administering it; and the result was, that he was asked to give it on operating days. He did so with great success. He administered it at University College with the same success. Liston, then the leading operator, struck with the new man who came before him in such an able and unaffected way, took him by the hand; and from that time the ether practice in London came almost exclusively to him. Science for once put assumption in its right place.

The new field once open, it were impossible but that he should cultivate it diligently. The Westminster Medical Society was often favoured with his communications and experiments on etherization; and in the September of 1847, he embodied, in his first work, the whole of his experience up to that time. The work was remarkable for the care with which it was written, the science which it displayed, and the complete mastery of the subject which it everywhere conveyed.

What had been a mere accidental discovery, I had almost said a lucky adventure, was turned by the touch of the master into a veritable science. The book was readily appreciated by the profession, and was just beginning to sell, when the discovery of the application of chloroform threw ether into the shade and the book with it.

Dr. Snow, though a man of great firmness when once his mind was made up, was always ready for new inquiry. Chloroform, therefore, was no
sooner brought before the profession by Dr. Simpson, than he began to institute a series of independent researches, and having satisfied himself personally as to the effects and greater practicability of chloroform, he at once commenced its use, and forgot sooner almost than others all predilections for ether. In 1848, he commenced a series of experimental papers on narcotic vapours in the Medical Gazette, and continued them until 1851, when the Medical Gazette virtually ceased to exist. The papers on narcotics, in accordance with his other and earlier productions, were stamped with the evidences of profound and careful research, and still more careful deduction. I infer that they have been more talked about than read, for few people seem to be aware of the enlarged and positive physiological arguments which they contain. Chloroform and ether are not alone discussed, but all narcotics. Narcotics are not alone considered, but various of the great functions of life. The records of a vast number and variety of experiments are here related, and an amount of information, original in kind, collected, which will always remain as a memorable record in the history of medical literature. But the great points in these papers are those in which the author enters on the physiological action of narcotics. Here appear the generalizations and insights into the relations of allied phenomena which mark the man of true power. His greatest deduction on these matters, and the proofs on which it is based, are to be found in his observations, where he explains that the action of the volatile narcotics is that of arresting or limiting those combinations between the oxygen of the arterial blood and the tissues of the body, which are essential to sensation, volition, and all the animal functions. He demonstrated that these substances modify and, in large quantities, arrest the animal functions in the
same way, and by the same power as that by which
they modify and arrest combustion, the slow oxida-
tion of phosphorus and other kinds of oxidation un-
connected with the living body when they (the nar-
cotics) are mixed with the atmospheric air.

In his modest way, he often spoke to me, with
honest pride, on this observation. He himself
thought it the best observation he had ever made,
and believed that it would not be lost as an his-
torical truth. Placing a taper, during one of our
experiments, in a bottle through which chloroform
vapour was diffused, and watching the declining
flame, he once said, “There, now, is all that occurs
in narcotism; but to submit the candle to the action
of the narcotic without extinguishing it altogether,
you must neither expose it to much vapour at once,
nor subject it to the vapour too long; and this is
all you can provide against in subjecting a man to
the same influence. I could illustrate all the mean-
ing of this great practical discovery of narcotism on
a farthing candle, but I fear the experiment would
be thought rather too commonplace.”

The year of the world’s fair in London, 1851, may
be considered a fortunate one for Dr. Snow. His
affairs had taken a new turn, and the tide was fairly
in his favour. He had a positive holiday, physical
and mental. The harass of the professional struggle
was over, the world was opening its eyes to his in-
trinsic merits; old friends flocked around him, brought
to the grand show in town, and all was well. He
did but little this year, except to write a character-
istic letter to Lord Campbell, who was pushing on a
bill in the House of Lords, called the “Prevention of
Offences Bill,” in which a clause was introduced to
prevent, by severe punishment, any attempt that
might be made by any person to administer chloro-
form or other stupifying drug for unlawful purposes.
Dr. Snow, believing that Lord Campbell was actu-
ated in introducing this clause by the fact of certain trials having recently occurred for the offence of using chloroform unlawfully, and being himself convinced that, in two of the cases (the one the case of a robbery in Thrale-street; the other, of a robbery attempted on London Bridge), the evidence against the prisoners, of attempting to produce insensibility by chloroform, was without any reason or possibility, he opposed the afore named clause in the bill on the ground that if it became law numerous frivolous and false charges would be constantly brought up against innocent people, or against guilty persons, but persons not guilty of the special charge laid against them, that, namely, of administering a volatile narcotic by inhalation. Knowing that weakness of human nature which leads a man, in the presence of all evidence, never to admit intoxication as possible in his own proper person, Dr. Snow felt that, in any case where an intoxicated person had been robbed, such person might allege that he had been made insensible by narcotic vapour. The two cases specially noticed in his letter admitted readily of such interpretation, and were clearly not cases in which chloroform had been administered. Lord Campbell, on the receipt of Dr. Snow's letter, referred to it in very complimentary terms in the Lords, but intimated that the reasoning of the letter did not alter his determination. The editor of the Medical Gazette, Dr. Alfred Taylor, opened fire on Dr. Snow; and for two or three weeks a sharp contest occurred between the two doctors; but the matter soon rested, each author retaining his own opinions, and both agreeing to differ.

Dr. Snow's amiable but firm nature led him often to this ultimatum. Freedom of expression was a right he always claimed; but for this reason he extended the same privilege to others. He was never stirred into provocation by any difference of opinion.
It was enough for him to form carefully his own opinions, and then to hold to what he had said, so long as he felt, from his internal convictions, that he was right.

In the year 1848, Dr. Snow, in the midst of his other occupations, turned his thoughts to the questions of the cause and propagation of cholera. He argued in his own mind that the poison of cholera must be a poison acting on the alimentary canal by being brought into direct contact with the alimentary mucous surface, and not by the inhalation of any effluvium. In all known diseases, so he reasoned, in which the blood is poisoned in the first instance, there are developed certain general symptoms, such as rigors, headache, and quickened pulse; and these symptoms all precede any local demonstration of disease. But in cholera this rule is broken; the symptoms are primarily seated in the alimentary canal, and all the after symptoms of a general kind are the results of the flux from the canal. His inference from this was, that the poison of cholera is taken direct into the canal by the mouth. This view led him to consider the mediums through which the poison is conveyed, and the nature of the poison itself. Several circumstances lent their aid in referring him to water as the chief, though not the only, medium, and to the excreted matters from the patient already stricken with cholera, as the poison. He first broached these ideas to Drs. Garrod and Parkes, early in 1848; but feeling that his data were not sufficiently clear, he waited for several months, and having in 1849 obtained more reliable data, he published his views in extenso in a pamphlet entitled "The Mode of Communication of Cholera". During subsequent years, but specially during the great epidemic outbreak of the disease in London in 1854, intent to follow out his grand idea, he went systematically to his work. He laboured
personally with untiring zeal. No one but those who knew him intimately can conceive how he laboured, at what cost, and at what risk. Wherever cholera was visitant, there was he in the midst. For the time, he laid aside as much as possible the emoluments of practice; and when even, by early rising and late taking rest, he found that all that might be learned was not, from the physical labour implied, within the grasp of one man, he paid for qualified labour. The result of his endeavours, in so far as scientific satisfaction is a realization, was truly realized, in the discovery of the statistical fact, that of 286 fatal attacks of cholera, in 1854, occurring in the south districts of the metropolis, where one water company, the Southwark and Vauxhall, supplied water charged with the London fecal impurities, and another company, the Lambeth, supplied a pure water, the proportion of fatal cases to each 10,000 houses supplied by these waters, was to the Southwark and Vauxhall Company’s water 71, to the Lambeth 5.

There was, however, another fact during this epidemic, which more than the rest drew attention to Dr. Snow’s labours and deductions. In the latter part of August 1854, a terrific outbreak of cholera commenced in and about the neighbourhood of Broad-street, Golden-square. Within two hundred and fifty yards of the spot where Cambridge-street joins Broad-street, there were upwards of five hundred fatal attacks of cholera in ten days. To investigate this fearful epidemic was at once the self-imposed task of Dr. Snow. On the evening of Thursday, the 7th of September, the vestrymen of St. James’s were sitting in solemn consultation on the causes of the visitation. They might well be solemn, for such a panic possibly never existed in London since the days of the great plague. People fled from their homes as from instant death, leaving behind
them, in their haste, all the mere matter which before they valued most. While, then, the vestrymen were in solemn deliberation, they were called to consider a new suggestion. A stranger had asked, in modest speech, for a brief hearing. Dr. Snow, the stranger in question, was admitted, and in few words explained his view of the "head and front of the offending". He had fixed his attention on the Broad-street pump as the source and centre of the calamity. He advised the removal of the pump-handle as the grand prescription. The vestry was incredulous, but had the good sense to carry out the advice. The pump-handle was removed, and the plague was stayed. There arose hereupon much discussion amongst the learned, much sneering and jeering even; for the pump-handle removal was a fact too great for the abstruse science men who wanted to discover the cause of a great natural phenomenon in some overwhelming scientific problem. But it matters little. Men with great thoughts in their heads, think of little things which little men cover with their wide-spread feet. It matters little, for the plague was stayed; and whoever will now read dispassionately the report of a committee, afterwards published by the vestry, and the demonstrative evidence of the Rev. Mr. Whitehead, will find that the labours and suggestion of Dr. Snow, in reference to the Broad-street epidemic of cholera, must become each day better and better appreciated, as time, which never yet told a lie, tells the tale and points the moral of the event which is here so imperfectly described. Some who, at first, were amongst those who held up the labours of our friend to ridicule, or passed them over in contemptuous silence, have, indeed, since modified their opinions, and have either tacitly accepted his facts, or have done far worse by attempting to put them forward as though they were the work of no single man, or of some one unknown, or as though their connection
with a theory destroyed the originality of the facts themselves. It was my privilege, during the life of Dr. Snow, to stand on his side. It is now my duty, in his death, as a biographer who feels that his work will not be lost, to claim for him not only the entire originality of the theory of the communication of cholera by the direct introduction of the excreted cholera poison into the alimentary system; but, independently of that theory, the entire originality of the discovery of a connection between impure water supply and choleraic disease. The whole of his inquiries in regard to cholera were published in 1855, in the second edition of his work on the "Mode of Communication of Cholera"—a work in the preparation and publication of which he spent more than £200 in hard cash, and realized in return scarcely so many shillings.

In 1856, he made a visit to Paris in company with his uncle, Mr. Empson, who having personally known the present Emperor many years, had on this occasion special imperial favours shown to him, in which the nephew participated. During the visit, Dr. Snow lodged a copy of his work on Cholera at the "Institute", in competition for the prize of £1,200 offered for the discovery of a means for preventing or curing the disease. The decision of the judges has since been published, but no note seems to have been made of Dr. Snow's researches.

The Medical Society of London, reformed under that name in 1849-50, by amalgamation with the Westminster Medical, was at this time the principal scene of Dr. Snow's scientific exertions. In 1852, the Society elected him as Orator for the ensuing year; and at the eightieth anniversary of the Society, held on March the 8th, at the Thatched House Tavern, he delivered an admirable oration on "Continuous Molecular Changes, more particularly in their Relation to Epidemic Diseases." He made no claim to the ora-
tor's gown; but the address was too forcible and first class not to call forth the enthusiasm of the audience. It was admirably received; and few of us who were present on that interesting occasion will forget the simple and genuine earnestness of our beloved associate, as in the twinkling twilight he carried us along with the smooth current of his thoughts. He spent nearly twelve months in the preparation of this oration. It was intended to convey, in the most pleasing manner at his command, a broad view of his observations on the communication of certain spreading diseases. He advanced, on this occasion, the idea that intermittent fever, and perhaps yellow fever, are, like cholera, carried by their poisons direct into the alimentary system.

Two years after this event, having, meantime, passed the office of vice-president, the Society elected him to the highest honour it can confer,—to the presidential chair. He took his place as President, in his unassuming manner, on March 10th, 1855, delivering a short but pleasing address. Throughout the year he carried out the duties of his office with great success. One of his presidential acts was peculiarly graceful. One evening, while presiding, Dr. Clutterbuck (then the father, or oldest member of the Society) came into the meeting. The venerable and distinguished old man, then long past his eightieth year, had lately been a stranger to the assembly, and was known but to few of the members. The President, as Dr. Clutterbuck entered the room, himself rose, and in a way that was irresistible in its simple courtesy resigned his chair to the veteran Esculapian.

"It is near fifty years," said Dr. Clutterbuck with emotion, as he took the proffered seat, "since I last occupied this honourable position." At the next anniversary meeting, held on March the 8th, 1856, Dr. Clutterbuck came to his last meeting, and to see (so the fates willed it) his friend the President play also
his last part in presidential duties. At the anniversary dinner on that same day, the President reviewed, in feeling terms, his own career in the professional strife, and expressed that his success in life had originated in his acquaintance with the Society over which he then governed by the general will.

In addition to the fellowship of the Medical Society, Dr. Snow belonged to the Royal Medical and Chirurgical, Pathological, and Epidemiological societies. He was also a member of the British Medical Association. The Medical Society, from its old associations, was, however, that in which he took the most active part. Next to this, the Epidemiological Society claimed his regard. When Mr. Tucker first contemplated the formation of the Epidemiological Society, Dr. Snow was one of the first with whom he held consultation, and from whom he received that able support which enabled him to found that excellent institution. From the first of the Society, Dr. Snow was an active member. He was on many of its committees; he was a member of council, and a frequent contributor to its Transactions. He used often to meet with opponents to his peculiar opinions at the meetings of this Society, but he always retained friendships.

The position which he took as an epidemiologist was original, and in opposition to the views of many eminent men who had in the matters relating to public health considerable influence, scientific and political. He could not consequently, and did not, expect to go on his way unopposed. But he did sometimes expect a more deliberate and considerate attention to his hard wrought labours than he received or deserved. He used constantly, though no great professor of Shakespearian lore, to deplore the long admitted fact, that nothing so inevitably tends to transform an earnest inquiring and enthusiastic man, into a supercilious, superficial, and cold-hearted egotist, as translation from the stool of self-reliance
and independence, into the gilded chair of office and brief authority.

It must be admitted that Dr. Snow's views on the spread of epidemics were extreme in character; but from the slight which they too hastily received, they were not, I believe, properly understood. It has often been said that he encouraged by his arguments the perpetuation of certain offensive arts and occupations which are injurious to the public health; and in 1855, several journalists commented on him severely for this supposed error. But the fact is, he never presumed that any man could breathe with impunity other gaseous mixture than oxygen and nitrogen in atmospheric proportion. He knew too well the effect of inhaling chemical substances to allow of such supposition to enter his mind. But he contended, in regard to pure epidemic disorders, distinguished by specific symptoms, that these have a specific poison, which is propagated by certain fixed laws, which attains its progression and increase in and through animal bodies; which is communicated from one animal body to another, and which is the same in its essence from first to last. This was his position, and he adhered to it. No mere emanation arising from evolution of foul smelling gas can, per se, according to his views, originate a specific disease, such as small-pox or scarlet-fever; as well expect that the evolution of such gas should plant a plain with oaks or a garden with crocuses. True, small-pox may occur over a cesspool as an oak may spring up from a manure heap; but the small-pox would never appear over the cesspool in the absence of its specific poison; nor the oak rise from the manure heap in the absence of the acorn which seeded it.

In 1855, Dr. Snow gave evidence before the select committee on the "Public Health and Nuisances Removal Bill," in which evidence he strove to convey the impressions which are condensed above. Feel-
ing that he had not been correctly understood, he afterwards wrote a letter to Sir Benjamin Hall, in which he set forth the whole of his argument very distinctly and sensibly. He indicated in this letter that he was no defender of nuisances, but that whereas a bad smell cannot simply because it is a bad smell give rise to specific disease, so an offensive business conducted in a place where it ought not be should be proceeded against by ordinary law as a nuisance, without using in regard to it the word pestiferous, or otherwise dragging in and distorting the science of medicine. As time rolls on, it will probably be elicited that the groundwork of Dr. Snow's theory is sound. That if he committed error, it was in adhering too closely to the abstract fact, and in not allowing sufficient importance to the favouring influence of impure conditions in the propagation and distribution of the specific poisons of the specific diseases.

At all events, the view he had maintained originally, he maintained to the end, and throughout conscientiously; and the aspersions that the object of his argument was to support his special theory regarding the communication of cholera, are utterly unfounded. In the present year, 1858, he read at the Epidemiological Society, and published in the Medical Times and Gazette, a repetition of his previous opinions, strengthening them by a statistical record, showing that the mortality of persons working at so-called offensive occupations is at certain ages lower, and at certain ages slightly higher, than in the general population. When the paper was read at the Epidemiological Society, Mr. Edwin Chadwick made a long series of objections to the paper, and complained that the argument was illogical. It was so, doubtless, on Mr. Chadwick's premises; but on the premises advanced by Dr. Snow, as to the specific propagation of specific diseases by specific poisons, phy-
iological problems on which, from his experimental researches and knowledge, he was far the best authority, his arguments were perfectly logical, and perfectly consistent.

In relation to public health, Dr. Snow contributed many other observations. In the first number of the *Sanitary Review*, he communicated a valuable paper, previously read at the Epidemiological Society, on the "Comparative Mortality of Town and Rural Districts"; and, previous to his decease, he was busily occupied in investigating the question of adulteration of bread with alum. He made several analyses of different specimens of bread, but his papers merely leave a brief record of the fact, without any comments or results.

We return for a few moments to some further points connected with his researches on inhalation. In addition to his experiments with volatile narcotics, he carried out for a long time a series of inquiries with other medicinal substances, and administered many remedies by inhalation at the Brompton Hospital, during a period of twenty months. In 1851, he recorded the result of this experience at the Medical Society of London, and explained the modes of administering various agents. Some, as morphia and stramonium, were inhaled with the aid of heat; others, as hydrocyanic acid and conia, were inhaled at the ordinary temperature. The particulars of these experiments will be found in a short paper in the *London Journal of Medicine* for January 1851.

He continued steadily to investigate the effects of various volatile agents for the production of insensibility, and arrived by frequent experiment to such a degree of positive knowledge regarding agents of this class, that the composition and boiling point of any new chemical body having been supplied, he could predict whether or not its vapour would pro-
duce narcotism by inhalation. Other than the volatile narcotics referred to in his present essay, he performed a variety of experiments with carbonic acid, carbonic oxide, cyanogen, hydrocyanic acid, Dutch liquid, ammonia, nitrogen, amylovinic ether, puff-ball smoke, allyle, cyanide of ethyle, chloride of amyle, a carbo-hydrogen from Rangoon tar, a carbo-hydrogen coming over with amylene, and various combinations of these. His grand search was for a narcotic vapour which, having the physical properties and practicability of chloroform, should, in its physiological effects, resemble ether in not producing, by any accident of administration, paralysis of the heart. The fact that in almost every fatal case from chloroform the result had occurred from the action of the narcotic on the central organ of the circulation, was never absent from his thoughts. An agent having this effect, however intrinsically valuable, was not to be put in the hands of every person for administration. "There would be a great uproar," he remarked on one occasion, "if a student were to undertake on the operating table to tie the femoral artery, and were to open the femoral vein. Yet at some of our hospitals, the administration of chloroform has been entrusted to the porter, who would only grin in ignorance, if informed that each time his services were required, he performed the grand act of suspending for a time the oxidation of the whole body, and of inducing a temporary death; and who would tell you, if you asked him the composition of chloroform, that it was smelling stuff." He spoke this from no selfish feeling, but with that kind of regret which an educated engineer would feel, on referring to the fact of a railway porter who, knowing nothing of steam, how to put it on, when to take it off, or why it propelled, had mounted an engine and driven a host of confiding passengers to their destruction. This is the way in which he ex-
pressed himself, and it would be difficult to show that he was not correct.

Intent on the discovery of some new anaesthetic, which might be more safely entrusted to general use, Dr. Snow began, in 1856, to experiment with amyline. As usual, he went to work cautiously and with precision. First he ascertained the boiling point of the specimen supplied to him; then the point of saturation of air with the vapour at different temperatures; then the effects of inhalation of the vapour by inferior animals, and the quantity required to be inspired, with the air breathed, to produce insensibility. These were the usual steps in all his inquiries of this kind. When he had obtained any substance which would produce insensibility favourably on animals, he pushed it, in one or two experiments, to its extreme in animals of different kinds; and having produced death by the inhalation, both by giving rapidly a large dose, and by giving a small dose for a long period, he observed the mode of death, whether it occurred by cessation of the heart, or by cessation of the respiration primarily. If the agent seemed to promise favourably from these inquiries, he commenced to try it on man; and the first man was invariably his own self. His friends, knowing his unflinching courage in the ardour of his inquiries, often expostulated with him in regard to the risks he ran. It was of no avail. He felt the personal trial a duty, and he did it. I do not believe, as some have supposed, that these personal experiments had any effect in producing his early death; but it is certain that he underwent many risks in the performance of his investigations, and that he held his own life of least consideration when the lives or well-being of others were under consideration.

There is yet another trait in his character which I cannot but notice, and which I would respectfully commend to all physiological inquirers. While he
held it as a necessity to use inferior animals for the purpose of experiment, he never touched living thing with the physiologist's finger without having before him some definite object; and never performed experiment on any animal without providing with scrupulous care against the infliction of all unnecessary suffering. The interests of humanity were, according to his rule, best advanced by the practice of a humanity that was universal.

He paid considerable attention to the subject of local anaesthesia, and tried numerous methods for attaining to a knowledge of a perfect local anaesthetic. He performed experiments with freezing mixtures, with chloroform; and for the production of rapid and efficient benumbing by cold, he tried, in 1854, the effects of applying solid carbonic acid to the skin. At one of the meetings of the Medical Society, he reported at length the results he had arrived at; but he was never satisfied with them, and soon relinquished the inquiry, in order to concentrate his energies on the discovery of what he felt sure must be discovered ultimately,—an anaesthetic which might be inhaled with absolute safety, and which would destroy common sensation without destroying consciousness.

To some extent he succeeded in this latter direction, in his discovery of the physiological effects of amylene; and for some time he was sanguine as to the great safety of the new agent. But the deaths which he has so faithfully recorded as occurring in his own hands from amylene, removed his expectations, and he discontinued its use as soon as he learned the risks which might follow its administration.

By his earnest labours Dr. Snow soon acquired a professional reputation, in relation to his knowledge of the action of anaesthetics, which spread far and wide; and the people, through the profession, looked up to him from all ranks, as the guide to whom to en-
trust themselves in "Lethe's walk". On April the 7th, 1853, he administered chloroform to Her Majesty at the birth of the Prince Leopold. A note in his diary records the event. The inhalation lasted fifty-three minutes. The chloroform was given on a handkerchief, in fifteen minim doses; and the Queen expressed herself as greatly relieved by the administration. He had previously been consulted on the occasion of the birth of Prince Arthur, in 1850, but had not been called in to render his services. Previous to the birth of Prince Leopold, he had been honoured with an interview with His Royal Highness the Prince Albert, and returned much overjoyed with the Prince's kindness and great intelligence on the scientific points which had formed the subject of their conversation. On April 14th, 1857, another note in the diary records the fact of the second administration of chloroform to Her Majesty, at the birth of the Princess Beatrice. The chloroform again exerted its beneficent influence; and Her Majesty once more expressed herself as much satisfied with the result.

Inquisitive folk often overburthened Snow, after these events, with a multitude of questions of an unmeaning kind. He answered them all with good-natured reserve. "Her Majesty is a model patient," was his usual reply: a reply which, he once told me, seemed to answer every purpose, and was very true. One lady of an inquiring mind, to whom he was administering chloroform, got very loquacious during the period of excitement, and declared she would inhale no more of the vapour unless she were told what the Queen said, word for word, when she was taking it. Her Majesty, replied the dry doctor, asked no questions until she had breathed very much longer than you have; and if you will only go on in loyal imitation, I will tell you everything. The patient could not but follow the example held out to her. In
a few seconds she forget all about Queen, Lords, and Commons; and when the time came for a renewal of hostilities, found that her clever witness had gone home to his dinner, leaving her with the thirst for knowledge still on her tongue.

From the literary and general history of Dr. Snow, let us turn for a few pages to his history personal. I will take the mean of the last eight years of his life,—the period in which I knew him,—as the period from which to draw particulars. He was of middle size, and, some years since, slender; but of late he had become of slightly fuller build. His long life in comparative student loneliness had made him reserved in manner to strangers; but with private friends he was always open, and of sweet companionship. With his increased popularity he became less reserved to strangers; and within the last few years he so far threw off restraint as to visit the opera occasionally. But he moderated every enjoyment, and let nothing personal stand in the way of his scientific pursuits. He was the impersonation of order. He had his time and place for everything; he kept a diary, in which he recorded the particulars of every case in which he administered chloroform or other anaesthetic, with comments on the results of the administration, and hints as to dangers avoided or chanced. He kept a record of all his experiments, and short notes of observations made by his friends. He rose early, and retired early to rest,—at eleven o'clock. He seemed, whenever he was waited on, as though he had nothing in hand, and were always open to an engagement.

Anything and everything of scientific interest arrested his attention, and his kindliness of heart was at all times in the foreground. When I was living at Mortlake, he would run down, on request, after his day's duties were over, to a post-mortem, to see a
poor patient, or to take part in an experiment, returning as cheerily as though he had been to receive the heaviest fee. I name this as but one example of his kindly nature; there are many who could corroborate the example in like personal manner.

He laid no claim to eloquence, nor had he that gift. A peculiar huskiness of voice, indeed, rendered first hearings from him painful; but this was soon felt less on acquaintance, and the ear once accustomed to the peculiarity, the mind was quickly interested in the matter of his discourse, for he always spoke earnestly, clearly, and to the point. In the societies he spoke very often, and gave expression to views, on which he had spent great thought, with a generous freedom which, in so far as the fame of his originality was concerned, had been better held in reserve. It had been better, that is to say, for him to have carefully elaborated some of his views in the closet, and published them fully, than to have sent them forth in the hurry of debate. Had he lived, he would possibly have collected many stray labours thus put forward, and have given to them the matured consideration which they deserved. One of his views, on which he would have bestowed great attention, refers to the origin of various morbid growths, as cancer. He believed that these morbid formations are all of local origin; that they arise in the parts of the body where they are found, from some perversion of nutrition; and that the constitutional effects are secondary to and dependent on the local disorder. He had made many observations on this important subject, notices of which are to be found scattered, here and there, in the proceedings of the Medical Society of London, but no connected record was ever completed.

His private conversation was both instructive and amusing; he was full of humorous anecdotes, which he told in a quiet, and irresistibly droll style;
and when he laughed, his good-natured face laughed in every feature. His anecdotes were never given in set form, but were elicited by some circumstance or other which might happen to suggest them. Once, when a friend of ours related at dinner some of the economical measures of an odd old doctor who was known to some of the company, he gave us an anecdote, showing how a man may work too hard for his money. "When I was a very young man," he said, "I went for a brief period to assist a gentleman who had a large parochial practice. I found his surgery in a very disorderly state, and thinking on my first day with him that I would enhance myself in his opinion by my industry, I set to work, as soon as his back was turned, to cleanse the Augean stable. I took off my coat, cleared out every drawer, relieved the counter of its unnecessary covering, relabelled the bottles, and got everything as clean as a new pin. When the doctor returned, he was quite taken by storm with the change, and commenced to prescribe in his day book. There was a patient who required a blister, and the worthy doctor, to make dispensing short, put his hand into a drawer to produce one. To his horror, the drawer was cleansed. Goodness! cried he, why where are all the blisters? The blisters, I replied, the blisters in that drawer? I burnt them all; they were old ones. Nay, my good fellow, was the answer, that is the most extravagant act I ever heard of; such proceedings would ruin a parish doctor. Why, I make all my parochial people return their blisters when they have done with them. One good blister is enough for at least half a dozen patients. You must never do such a thing again, indeed you must not. I did not, for he and I soon found a good many miles of grass between us.

* Messrs. Maule and Polyblank have an excellent photographic portrait of Dr. Snow in their "Scientific Portrait Gallery" series. Mr. Empson has also a bust, which has been greatly admired for its correctness and for its superiority as an artistic work.
though we never had any more serious misunderstanding."

His replies, when under the fire of cross-question, were ready and commonsense. Once, he observed that in his opinion sulphuric ether was a safer narcotic than chloroform. Why, then, said a listener, do you not use ether? I use chloroform, he resumed, for the same reason that you use phosphorus matches instead of the tinder box. An occasional risk never stands in the way of ready applicability. On another occasion, after one of the meetings of the "Medical Society," when the subject of a specific cholera cell had been under debate, some one asked him, as a poser and rather ironically, where he thought the first cholera cell came from? "Exactly," he replied, with a droll face. "But to begin, do you tell me where the first tiger or the first upas tree came from; nay, tell me where you came from yourself, and I will then tell you the origin of the first cholera cell, and give you the full history of the first case; but I want a model before I venture on the description of ultimate facts."

As an author, his style was plain, clear, and smoothly elegant. His argument was always carefully studied and as carefully rendered. He sent manuscript to the printer which required scarcely a letter of correction. Both in writing and speaking, he made the expression of truth his first business. Neither provocation nor temptation could ever lead him aside from that principle. His readings were select. He chiefly read scientific works, old and new. He had great relish for some of the old medical writers— the masters in physic. He had read Bacon, but agreed with Harvey's criticism that Bacon wrote science like a lord chancellor. He had a notion that there had been a history long previous to any we know of from existing records, in which the sciences generally had risen to a greater perfection than they are at this present. His conversance
with Sprengel’s *History of Medicine* had possibly led him to this opinion. He was fond of general history also, but studied it little. He never read novels, because the hours devoted to them were, he felt, hours thrown away. At the same time, he enjoyed as much as any man ridiculous life-pictures naturally cast. When he came to see me, and leisure was with us, I used often to read to him some of the more amusing passages from Dickens and Thackeray, or from one of the older writers, as Swift. It was a new world to him, and provoked great fun. He would ask to have passages read over again, that he might better realize the conception. He enjoyed vastly any anecdotes about the old men in physic, the Cullens and Meads and Arbuthnotts and Harveys. Any such anecdotes he took into his memory and never forgot them.

On such occasions I would, in ridiculous mood, sing him absurd songs to any tune, two or three tunes, or to no tune at all, and without any pretence at voice. At first he would listen with his hands flat together and with a perfect melancholy on his face, as if he could hear it no longer. Bit by bit he would relax, and at last get into a continued laughter. Then I would stop, and he would begin to open out his list of anecdotes, professional and general, upon which the laughter came over to me with compound interest, for of men enriched with stores of droll stories, few could equal him. Nor was he inventive in these narrations; he had simply observed character shrewdly, and described it in its humorous phases. If he had written as he related, he would have ranked as one of the humorists of the age of no second order.

He thought severely of the reviewer’s art, and would never of late review any book critically. If a book were good, it carried the review of its own merits. If it were bad, it were better left untouched. He, at all events, with so much original work before
him, could not stop to criticize his companions or their transactions. Let the dead bury their dead; he must march with the living while life gave power.

Notwithstanding, he was fond of controversy and courted it. I expressed to him once some surprise that he with such an even temper should write so often in controversial style; and that surely it were better to follow Harvey's and old Sam Johnson's plan, to do the best oneself, and leave the controversy altogether to others less personally influenced. He agreed that this was by far the best system, but did not think it practicable generally, and feared that silence might often be misinterpreted.

Men who have something in them take different courses in the way of accepting the world's recognition of their labours. The beginning, in most cases, is after a given pattern; the end is modified and turned about variously, according to the stamp of the man. All start with an exaggerated appreciation of their own doings, and with exaggerated feelings respecting the critics who first notice them. The critic is Jove the all wise, or Pluto the all black. There was never middleman critic yet. Some men stop at the first, either too elated with the pleasure of the first reception to venture more, or too cast down from the pain of a sharp reception to tempt fortune further. Cowards these both, in one word. Others enter into violent controversies; in the heat of the same, drop one or two contradictions, and, wishing every month that Cadmus had been still born, go on always at controversy, boring everybody, and especially those who would believe if not bored. Others, again, soon find their own level, and not only their own, but the level of their critics. Sated with commendation, or hardened by attacks, these care little for either, and make no retorts save such as are by ambushade and go right home. A fourth class, of immovable temper and self-reliant, fall into what seems, superficially, indifference, but which
means, deeply, the soul of earnestness. These do always
the best thing at the time, and, when it is done
to their own satisfaction, put it forward, with no
anxiety whatever as to what may be said of it, with
no intention of entering into any defence of it, and
with no intention of doing anything less than them-
selves correct all such errors in it as after know-
ledge may indicate, or commit it to the flames, if
destruction be its best fate. Fatalists in letters, men
of this class, if it be pleasure to call them so; but
great fatalists too—honest reviewers of their own
works, who fear their own criticisms, and none
other; who offer immense labours, and die to them
as they offer. Dr. Snow, as we have seen, was the
representative rather of the controversial class of
workers. But he had his own way of doing the
controversy business, which saved friendships, and
exhibited a firm principle and an exact knowledge.
It is not to be denied, however, that, had he put his
labours before the world, and trusted in them and on
the world's justice, never replying a syllable, he
would have avoided an extremity of argument which
was often not merely unnecessary in relation to his
propositions, but injurious to them, as reasonings
overstraining.

He admired art, and felt real pleasure in advan-
cing it. He enjoyed innocent recreations, and was
ever at home in the family circle. He had his re-
grets that he had never married, the fates had been
against him permanently on that score. He loved
the prattle of children. When he went to court
during last season, and had arrayed himself in his
court suit, nothing connected with the event amused
him so much as the saying of the child of a friend,
who, on seeing him start, with his sword and flattened
hat, held up her hands, and exclaimed: "Oh! isn't
Dr. Snow pretty, mamma." The idea of being con-
sidered pretty roused in him quite a new and droll
sensation, which he could not help telling about as
a rare incident in a courtier's career. The anecdote is simple, but it gives a good idea of the simple and genial nature of the man.

It has been shown that the tendency of Dr. Snow's mind for philosophical pursuits led him away in some measure from the practical drudgery of professional life. From this fact, it has been too hastily inferred that he was therefore, in the common parlance, "not a practitioner." Those who knew him as a practitioner, who had had the advantage of his assistance in cases of doubt or difficulty, have a very different opinion. These speak of him, with one accord, as having been, without any ostentation, one of the soundest and most acute of our modern physicians. He had great tact in diagnosis; an observant eye, a ready ear, a sound judgment, a memory admirably stored with the recollection of cases bearing on the one in point, and a faculty of grouping together symptoms and foreshadowing results, which very few men possess. Mr. Peter Marshall, of Bedford Square, who often called in Dr. Snow in consultation, has remarked to me in nearly the same terms as I have expressed, his independent appreciation of Dr. Snow's practical knowledge. For my part, I never had the good fortune to put many fees into his pocket; but as I had often the pleasure of meeting him on pure scientific grounds in cases of interest, I can bear truthful testimony to his eminent qualities as a practitioner, and to the fact that his philosophical labours only served to render him more intelligent and profound in matters relating to diseases and their treatment. He did not become the idol of the people in common practice, far from it: but the failure arose not from deficiency of knowledge, but from a more perfect knowledge with assumption whipped out of it. It is no discredit to his memory that he was not the idol of the people in common practice, though it cost him much suffering to feel himself kept down, by that wisdom which is the oil
to the water of popular ignorance concerning life and its laws. For, to be the idol of the people in physic, is too often to be the Juggernaut of physic,—an idol of wood or of stone in showy gold and tinsel. This idol has neither sense nor force; if it had, it were not an idol; it would walk off, or tell the worshippers no longer to shake hands constantly with themselves in its presence.

But, when the opportunity offered for obtaining remunerative practice by the exercise of his scientific skill, Snow showed himself, both in act and industry, competent for success. He soon overcame all difficulties, and managed by his frugality to lay in store for a rainy day for himself, and to help such friends as needed. Many rumours as to the extent of his gains abound which it is right to correct. His income of late years was near £1,000 a year, but it never exceeded that sum. For this, he exhibited chloroform or one or other anaesthetic about four hundred and fifty times annually, taking an average of the ten years preceding his death. In a large number of these cases, however, his services were gratuitously supplied.

In his private relations, Dr. Snow was a man of the strictest integrity and purest honour. The experiences of life, instead of entwining about him the vices of the world, had weaned him from the world. Without any pretence, maintaining no connection with sect or party, living by the rules of the eternal laws which, according to the best of his abilities, he could read from the universe, he carried out a practical religion, independently of any hypothesis or abstruse profession, which few professors could approach. A child of nature, he knew no way of recognizing the Divine influences so purely as in silent and inexpressible admiration of those grand external phenomena which pharisees see not, but which each moment convey to men of his character,
We approach the end. In the midst of his success, when medicine most needed him and his hand was most powerful, he stood one day in his mental strength, and the next day fell. Death found him at his work, and the stern enemy came on him suddenly, though not without forewarnings.*

His health had long been indifferent; he had suffered from hæmatemesis several times in the last few years, for which Dr. Budd had attended him, and he had his own forebodings that his life was not of the longest. In the month of December 1857 he was suddenly seized one evening with vertigo and sickness, which compelled him to keep the recumbent position for more than twenty-four hours. At the end of this time he felt better, and went about his usual avocations. He had no convulsions at this time, nor did he lose his consciousness. After this attack, he complained on many different occasions, both to his housekeeper and to several of his medical friends, of numbness in his extremities. Some of these to whom he mentioned this circumstance, do not recollect whether this symptom was greater on one side of the body than on the other; while others distinctly state that it was referred to the left side only. His housekeeper was certain that he never complained of this numbness before the attack in December; and even afterwards, it would appear to have been only an occasional symptom. For six weeks before his final seizure he had made no mention of it. About three weeks before his last attack, he had complained, for some days, of a severe pain in the back of his head, which he himself considered

* Dr. Murchison, who with Dr. Budd rendered Dr. Snow all that able assistance which the best of medicine can offer, has kindly given me several particulars in regard to the fatal illness, which I embody in the text, with many thanks.
neuralgic, and for which he treated himself. This
pain quite left him, and for about a fortnight he had
been enjoying excellent health.

On the evening of Tuesday, June the 8th, 1858,
he attended a meeting of the Royal Medical and
Chirurgical Society. On the following evening there
was a meeting of a private society for the study of
cHEST diseases, held at Dr. Quain's. The subject dis-
cussed was the cause of the first sound of the heart.
On this, the last occasion of the kind at which he
was present, he was in unusual spirits, and looked
exceedingly well. He entered into the debate with
great earnestness, agreed to form one of a committee
to inquire into the cause of the first sound by expe-
riment, and left his friends with enthusiastic expres-
sion as to the success of the proposed undertaking.

We exchanged our last farewells that night.

He went to bed at half-past eleven o'clock on
June 9th, and on the following morning he came
down stairs at 8 a.m. When he came down, he com-
plained to his housekeeper of slight giddiness, and
she thought he did not walk very steadily. He re-
clined on the sofa, and said that he should be well
again in a few minutes, but that he did not think
he could eat any breakfast. Soon after, however,
he got up, said he felt very hungry, and ate a very
hearty breakfast. When this was done, he pro-
ceeded to write a portion of the manuscript of the
work on anaesthetics now published. He had writ-
ten to the last printed sentence, when his house-
keeper, who had scarcely left him, heard a great
noise, as if some one had fallen. She ran up
again and found her master on the floor, making
vain endeavours to regain his chair. He does
not appear to have had any convulsions, and his
consciousness was unimpaired, for he remarked
when his housekeeper came into the room, that
though he did not quite understand the nature of his
complaint, he was very sure he never had had any such symptoms before. His housekeeper observed that he had quite lost all power over his left arm and leg, and that his mouth appeared drawn to the right side. She had him lifted on the sofa; and here he remained for twenty-four hours before any medical assistance was sent for. This was his own wish, as he said he should soon be better, and that he did not wish to trouble any one. During this period he complained much of pain over the lower end of the sternum, which he endeavoured to relieve by frequent inhalations of sulphuric ether, but he neither ate nor slept the whole time. At 6 A.M. on the morning of Friday, June 11th, retching came on, and he vomited a considerable quantity of blood. Upon this his housekeeper sent for Dr. Budd, who, along with Dr. Murchison, continued to attend him to the last. His symptoms, when seen by these gentlemen, were briefly as follows:—Complete paralysis of motion over the whole of the left side of the body, but without loss of sensibility; the left angle of the mouth falling down, and the apex of the tongue deviating to the left; memory and consciousness were unimpaired; there was pain and great tenderness in the epigastrium, with urgent hiccup and haematemesis; there were slight indications of albuminuria, but there were no dropsical symptoms.

The haematemesis ceased after about twenty-four hours, but the vomiting and hiccup continued. By Monday, the 14th, these symptoms also had subsided, but others of a more alarming nature began to show themselves. The pulse and respiration became accelerated, the countenance and extremities became livid, and there was occasional wandering delirium. These symptoms gradually increased in severity; but he retained his consciousness until 11 A.M. of Wednesday, June 16th, when the breathing became stertorous, and deglutition impossible.
Throughout his illness, he had been sanguine of recovery, and expressed his belief frequently that he should soon be at his professional work again. On this, the last morning of his life, the fact of the danger in which he was placed was explained. He met the intelligence with calmness, but felt a wish to see Dr. Todd. Soon he sank into a somnolent state approaching to dissolution, and at 3 P.M. death took him.*

On the Monday following, Dr. Snow was buried at the Brompton Cemetery. It was the wish of many of his medical friends to follow him to his last home. But his relations, recalling his own unostentatious feelings, laid him in the grave in simple ceremony; and there, ingenuous friend, in the sleep that knows no waking, he sleeps on and takes his rest; the rest he has earned. The old changes of the world live after him, women mourning for their children; youths exulting on the marriage day; the inanimate returning to the elements; the animate returning to the infinite. But in the gaping time shall it chance rarely, for another science-man to come and go, who, taking him all in all, may call him "brother"!

* Dr. Murchison has also given me an outline of the post mortem appearances, which is subjoined. "The post mortem examination revealed slight white softening, only detectable by the microscope, in the right corpus striatum and optic thalamus, and fatty degeneration of the minute cerebral vessels. The heart was slightly fatty, but there was no valvular disease, nor atheromatous disease of aorta. The lungs were congested, and showed marked evidence of old disease at the apices. Both the kidneys were much contracted and granular, with numerous cysts, the right organ being almost entirely converted into cysts; with the uriniferous tubes either denuded, or containing granular disintegrating epithelium. There was distinct cicatrix of an old ulcer in duodenum, and the stomach was much congested, with numerous hemorrhagic spots."