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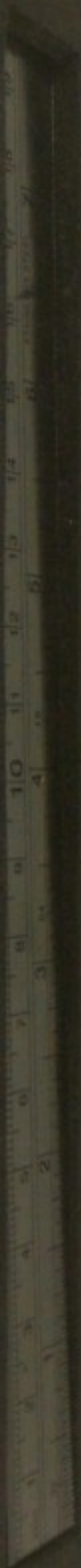
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THE SURGICAL EPOCH.

An Introductory Lecture

TO A COURSE OF

CLINICAL SURGERY.

DELIVERED IN THE

QUEEN'S COLLEGE, AT BIRMINGHAM,

NOVEMBER 16TH, 1857.

BY

J. SAMPSON GAMGEE,

SURGEON TO THE QUEEN'S HOSPITAL, AND LECTURER ON CLINICAL SURGERY
IN THE QUEEN'S COLLEGE, BIRMINGHAM; STAFF-SURGEON OF THE FIRST CLASS,
AND PRINCIPAL MEDICAL OFFICER OF THE BRITISH-ITALIAN LEGION DURING
THE LATE WAR, ETC., ETC.

"E pur si muove."—GALILEO.

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1857.

Price One Shilling.

"FOR IT IS THE TRUTH ALONE I SEEK, AND THAT WILL ALWAYS BE !]
WELCOME TO ME, WHEN AND WHENCESOEVER IT COMES."—JOHN LOCKE.

TO

WILLIAM SANDS COX, Esq., F.R.S.,

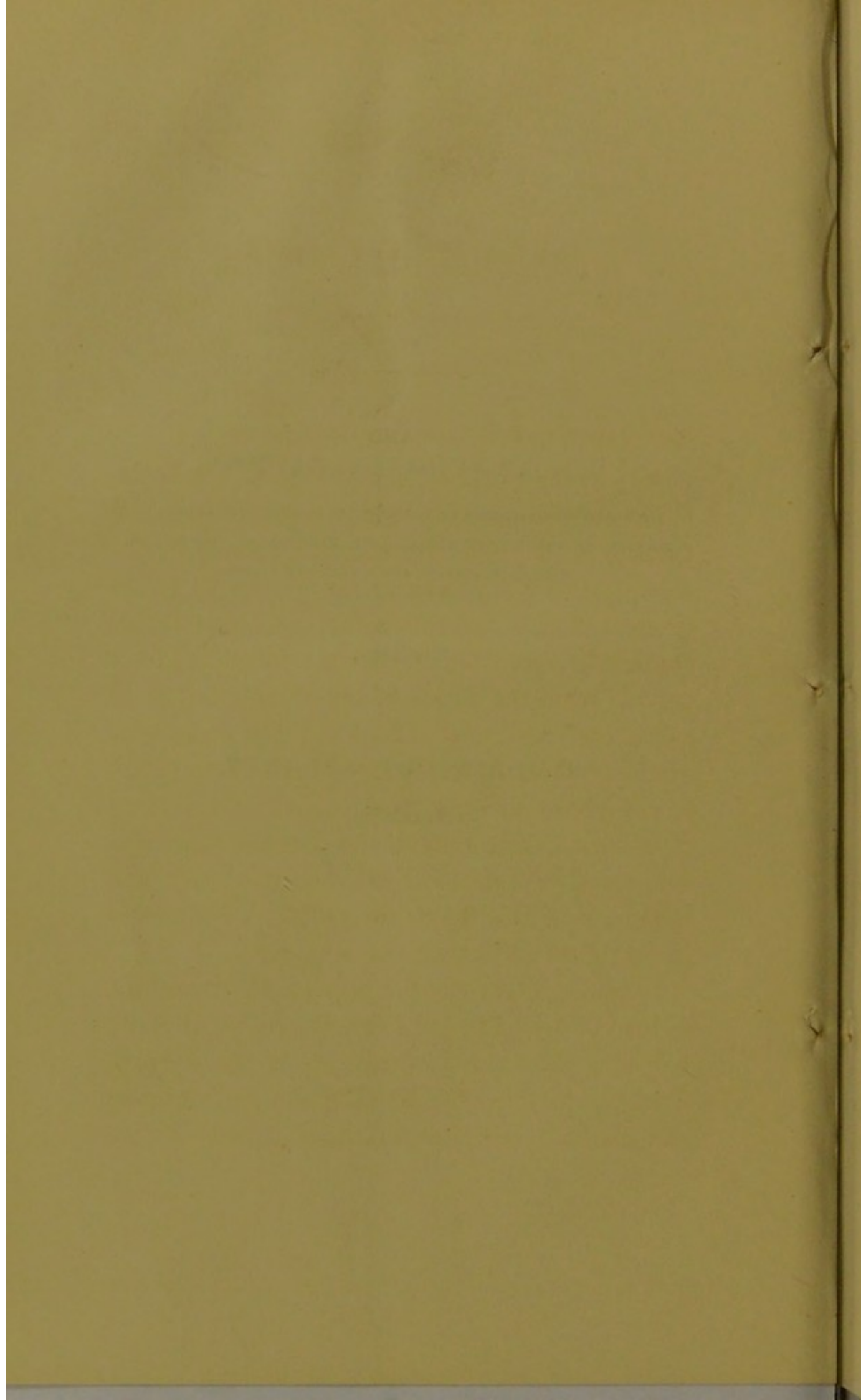
CORRESPONDING MEMBER OF THE PARISIAN SOCIETY OF SURGERY;
FOUNDER OF THE QUEEN'S COLLEGE AND HOSPITAL AT BIRMINGHAM;
DEPUTY-LIEUTENANT AND MAGISTRATE OF THE
COUNTY OF WARWICK,

Gratitude ;

TO

STUDENTS OF SURGERY,

Friendship.



THE SURGICAL EPOCH,

&c.

REV. MR. CHANCELLOR AND GENTLEMEN,

As surgeon to the Queen's Hospital, I have the honor and happiness to address you in this the Queen's College, at Birmingham ; and, in the first place, it is my duty to tender thanks to the Council of this Institution for the honor it has conferred on me. In obedience to its order I have entered upon the duties of my office ; and in all earnestness do I pray that, I may be able so to discharge them, as in the largest possible measure to relieve the suffering poor, convey learning to my students, contribute to the progress of science, and thereby secure and enhance the honor and usefulness of this the *de facto* Queen's University of the Midland Counties of England.

It would ill become the occasion to conceal the feelings of deep emotion I experienced on formally receiving the transfer of patients in the hospital from my predecessor, Mr. Knowles, whose long and faithful devotion to the interests of the

Institution, is so much matter of history as to dispense with the necessity of further notice on my part, beyond an expression of gratitude for the extreme kindness with which he inducted me to enjoy the honor of activity, in the position from which he has retired in the noon of a long life, to pass its even in the enjoyment of merited ease and honor.

For the present, my position as a lecturer in this theatre will be that of a clinical commentator on cases in the wards at the Hospital; I have already had occasion to direct the students' attention, at the bedside, to several cases of peculiar interest in a therapeutic no less than in a diagnostic point of view; but rather than develop at present the various doctrinal and practical considerations which those cases suggest, I have come to the determination to enunciate opinions on some questions more generally affecting the science of surgery.

Progress is to institutions, as to nations and individuals, essential to continued existence. The *statu quo* is impossible: let it be tolerated for an instant, decadence ensues. How best, how most rapidly, yet most safely and most efficiently to progress,—this is the question, and to its solution, in the sphere of surgical action, I propose addressing myself.

It is beyond question that a knowledge of actual conditions is indispensable to the safe tracking of ways for further advance ; and that review of past experience is pre-eminently conducive to the formation of a correct estimate of present things. Hence the necessity of comprehensively contemplating the past, the present, and the future of surgery, as a prelude to estimating the great features and wants of the present surgical epoch.

Unquestionable upon many grounds, as is the value of ancient learning, it is yet true that in the physical sciences it is neither economical nor essential, in order to estimate the character and rate of their progress, to peruse the records of history antecedent to that great revival, which may not inaptly be styled the dawn of the second age since the creation. Though in the thirteenth century of the Christian Era, it is none the less true that Roger Bacon lived two hundred years before his time. As his lips quivered at the hour of death, he whispered regret for having so singly devoted himself to science, apparently to so little profit to others, certainly with pain and sorrow to himself. But it was destined that he should illustrate how great were the sacrifices which the advocacy of truth demands at the hands of its votaries. The University of Bologna was

founded—Mundini ventured to snap the fetters of antiquated prejudice, and to look into the construction of the greatest of God's Works—the frame of man. Berengario da Carpi and Gian Battista Canani worked on that foundation. Guy de Chauliac and the two Johns, of Gadesden and of Arden, lived for progress ; but still the errors of the Greek and Roman fathers of medicine, additionally mistified by transmission through the Arabists, continued to enjoy almost undisputed reverence.

The age was fast approaching which gave to the world Vesalius, William Harvey, Newton, and the great Florentine, Galileo Galilei,—names which fill with pride the cultivator of medical science ; for they remind him that he belongs to a profession whose principal members were ever in the vanguard of human progress. Yes, the *Exercitatio de Motu Cordis* preceded the *Novum Organum* ; no earthly light has shone with greater lustre than Padua under Vesalius and his school. And why omit mentioning one of the greatest of those great ones—the father of surgery—Ambroise Paré, who did more to save life than the most ruthless plagues to destroy it. And Paré was not only the first surgeon of renown in modern times, he was not only the originator of a new epoch, he was great amongst men for the moral ascen-

dancy he acquired over them by the exercise of virtues rare amongst the best. How the soldiers loved him ! Father Ambroise, for so he was designated, was the personal friend of all who ever suffered in the ranks of his royal master ; and when he was sent to the beleaguered Metz, his presence on the rampart struck fire into the quaking souls, and the gasping disordered combatants returned to the breach, shouting Father Ambroise is here ! and nerved by the holy inspiration of gratitude and love, they hurled back the foe from the scene of so much heroism.

How consoling to reflect that the first and greatest of modern surgeons will live for all time as an example, not to be excelled, of the best and rarest qualities of the human heart and brain !

With Paré, Vesalius, and William Harvey, anatomy and physiology were raised to the dignity of sciences of observation and induction ; surgery was initiated, and that on so sound a basis, with so powerful a momentum, that progress continued steady and substantial.

In the middle of the 17th century, Richard Wiseman gave to the world his Chirurgical Treatises, which have been said to have merited him the title of the English Paré ; but the Sergeant-Chirurgion of our second Charles was rather of the mould of his contemporaries Scul-

tetus and Fabricius Hildanus, than of the great Huguenot. The Hippocratic teaching had too firm possession of Wiseman's mind. He was certainly an ornament to the profession of his day, he wrote a useful compilation, but with more his memory cannot in justice be credited.

The 18th century dawned, and with it came upon the stage all the great ones of the French Surgical Academy, with Desault, Percival Pott, the Hunters, and Morgagni. What an age! How salutary to ponder over it, when the splendour of present things tends to encourage an erroneous estimate of contemporary greatness, an inadequate appreciation of the glories of past ages.

Certainly no greater surgical council than the Parisian Academy of the last century ever sat. The plan of its founders, as portrayed in the introductions to the memoirs and to the collection of prize papers, could not, for philosophical conception and adaptation to practical ends, be surpassed at the present day. To those academicians is due the merit of having more distinctly and forcibly than their predecessors demonstrated the importance of diagnosis. Observation of fact, physical experiment, and sound erudition, flourished with those surgeons. Doctrine no less than art did they cultivate ; they had a just contemplation of the immeasurable vastness of the

work to be accomplished ; and they eloquently expressed their ardour for progress in the famous sentence, "La perfection semble s'éloigner en proportion qu'on fait des efforts pour en approcher." They cultivated, with signal diligence and success, the domain of operative surgery, yet they declaimed against its being raised into undue importance : "L'operation n'est qu'un point dans l'exercise de la Chirurgie," by too many of the moderns forgotten;—yes, the actual operation is but a point in the circumference of surgical science ; truly it may be said to be the centre point ; to it efforts should converge ; from it light emanates to clear and explain many facts in healthy and diseased organization ; but it is only a point;—a truth to be remembered, because it will ensure attention to every point within the circle, according to the measure of its relative importance.

When Albert von Haller, Lavoisier, Boerhaave, John Hunter, and Gian Battista Morgagni lived, what a future opened ! When the human organization in health and disease was illustrated by comparative study, when another science was grafted on the tree of human knowledge, it was reasonable to anticipate progress with gigantic steps. How marvellous was that close of the 18th century, and the dawn of the present ! I

verily believe it will be viewed by remote posterity, with a feeling of reverential awe, much greater than that inspired by reflection on any other age since the world's formation.

Dupuytren, Scarpa, Larrey, and Charles Bell, proved worthy pupils of immortal masters; but whereas formerly surgery was one of the first branches of learning in which observation of fact and logical reasoning progressed, it has with time been accosted by rivals, some of which have claimed to hold the palm of priority. Comparative anatomy and experimental physiology, first fostered by the surgeons, have grown into distinct sciences. Medicine, metaphysical when surgery was positive, was born again under Laennec and the second Louis. Therapeutics, the most difficult of the medical studies, and certainly second to none in importance, has been the last revival, and in the eyes of physicians it has found greater favor than with the surgeons; who should never forget the already-quoted sentences of the Academicians; and availing of every auxiliary should cultivate their science and art, in strict conformity with the reformed and reforming medical philosophy of the age.

Accurately to pourtray the features and wants of the present Surgical Epoch, would demand much greater leisure than the present occasion

affords; none the less I cherish hope, that I may succeed in grouping a few general considerations in point, calculated to be useful in proportion as they tend to awaken healthily progressive thoughts.

It must particularly be borne in mind, that in the study of surgery, doctrine, any more than manual proceeding, is not to be neglected; theory and practice must go hand in hand. Upon this head much error prevails, as may be inferred by any one who reflects upon the abuse of the words practice and practical, the sweeping allusions so often made to theory and theoretical. Those who exclusively applaud the practical have too often only a knowledge of the empirical and of unenlightened handicraft; in anathemizing theory they visit with the same judgment fantastic speculation and philosophical induction, Bacon and Harvey with Paracelsus and Hahneman, Galileo and Newton with the disciples of mesmerism and table-turning. They cannot understand that practice, in the legitimate application of the term, is impossible without science, and science impossible without theory; which they sometimes condemn because incompetent for intellectual pursuit, at others because too idle to devote themselves to it, satisfied with the honor and fame which their handicraft procures them. How true it is, that

though varying in degree and form, mental talents and defects, virtues and vices, are alike in kind and principles at different epochs. Though more than a century has elapsed since the following was uttered by the French surgical Academicians, there is now as much necessity as ever for insisting upon the truth. "The practice of surgery demands a luminous and profound theory; but the ideas of the public, and of practitioners themselves, regarding theory, are so strange that it is necessary to take notice of them. Mere speculations, and knowledge acquired by experience have alike been confounded, under the name of theory; we term mere speculations those fictions of the imagination, those ideas which are not derived from the bottom of things; those principles founded upon probabilities and possibilities, those consequences which are inferred so lightly and with so much assurance. Such speculations cannot constitute the theory of the art of healing; they could only supply uncertain proofs, which nature almost always belies, and which time and reason soon efface from the memory of men. It is only imprudence, precipitation, and lack of judgment, which can elevate them to the high position of rules." Louis the surgeon had a just conception of practice, when he defined it to be "that experimental science, which is the

happy result of the combination of study and practice, which should always lend each other mutual aid." "Do not let any one," to use the words of John Bell, "persuade you that theories are of no avail. Every man will reason well and truly, in exact proportion to his acquired knowledge, and will act with sense and prudence, in exact proportion to his sound reasoning. If you put in action any one whose mind is improved by study, and ripe for practice, his powers rise in any perilous or agitated scene. His reasoning is rapid and sure. It is like instinct—direct, active, effectual. He thinks, judges, resolves, and acts at once. He reaps advantages from pathology, which (in the time of his studies) he did not believe to be so closely allied to practice; he gives commands with an intrepidity, security, and firmness, which he is delighted to feel. It is in the midst of these scenes of difficulty, that such a man, so inspired, comes to be truly known."

Those who dispise theory, point to the futility of the labors of extravagantly-theoretical men in their defence: there can be no doubt that the insatiable desire for clearing away difficulties by explanation; the greater love of many men for the webs of their own imaginations, than for the treasures hidden in the recesses of nature;

the greater facility of weaving the former than of digging out and piling up the latter, are potent causes, which dispose to so much exaggeration in theoretical pursuit, that its legitimate end is departed from, and real practical science, the application of rules which science and observation have discovered, suffers *pari passu*. But such examples only afford illustrations of the frailty of men's minds, and prove, that all are not equally competent to the great work in view ; they in no degree tend to subvert the proposition that, it is only by a just appreciation and combination of theory and practice that surgical, or any other science, can flourish.

To utilize the truths of surgical science, there can be no question that operative procedure with the knife is the chief agency, and hence it would seem impossible to direct to it too much attention. Neither is it possible in one sense. Operative surgery cannot be known too well ; its student cannot be too skilful ; but of this he must be careful, not to exclude from his consideration other no less important subjects. For the observations on this point, which emanated from the Academy of Surgery, and from such a master of the art, as Mr. John Bell, we have almost greater need at present than had the students to whom they were directly addressed.

“The operation, to use the words of the great Academicians, which most strikes the vulgar, is but a point in the treatment of disease. The knowledge of the cases which demand it—the accidents which follow it—the treatment which must vary according to the nature and the differences of these accidents—are not these the essential objects of surgery?”

“Operations,” according to John Bell, “though the least part of our profession, strike a deeper interest into the public mind than the daily cures we perform. Operations enjoy an importance in surgical education which they should not naturally have.”

In operators of distinction there can be little doubt but that the ready fulfilment, which the philanthropic wish to benefit others and the ambitious yet legitimate scheme of self-distinction meet with in their art, has tended, in some measure, to disqualify them for long and severe scientific pursuit. How disproportionate the feverish anxiety to multiply operative procedures and the sluggish endeavours to discover the causes of surgical deaths—causes which have only very recently seriously engaged the attention. For almost every amputation half-a-dozen methods are in use; but the knowledge of the nature and mode of counteracting the cause of deaths in all

amputations, and particularly the great cause—*pyæmia*,—is strangely poor, insufficient, and recent.

In hospital surgeons and students, how much more not unfrequently, does the carving out of a woman's breast, or the lopping off a leg, engross attention, than the setting a limb broken through the femoral condyles or the trochanters. How contrary to sound philosophy! Truly even in those bloody operations the knife is handled for a reparative purpose; but how much more easy its attainment, than in the case last mentioned, which does not afford scope for much brilliant display, it is allowed, but calls for the exercise of unusual manual dexterity and patient attention. How absurd the idea, that operative surgery can be learned on *field days in the operating theatre*. What a satire is contained in the literal truth of this designation! It is by operating on the dead body, by experiments, by steady perseverance to attain skill in handicraft with the knife, saw, and pliers, that the student should prepare himself for operating on the living,—but how many so prepare themselves! The workshop and dissecting room are evidently less attractive than the *theatre*.

If the preparation were diligent and really practical as it should be, the seeing operations in

the living would be a source of invaluable learning; but as things are now managed in many hospitals the operation day is little more than a display of the surgeon's skill, which the pupils *see* it is true, but cannot *observe*, and without *observation* it is impossible to *understand*. Unless the mind is so prepared as to go with the hands, operative surgery is a handicraft without any of the dignity of a practical science.

Let it be clearly understood, I am not lowering the absolute importance of a knowledge and power of how to use the knife; I have already said it;—that cannot be known and done too well, it is in point of fact, much talked of, but, by the majority of students, very inadequately learned; what I have especially aimed at is, to raise to their legitimate position, all the useful departments of surgical knowledge. After all, it is the same in surgery as in all things,—the truth is the truth, the whole truth and nothing but the truth; partial truths are relative falsehoods; and in science, pre-eminently, those incur the risk of grievous error, who are exclusive in their conceptions, insufficiently comprehensive in their observations and actions:—and the comprehensiveness of observation applies not only to contemporary things. With men, as with nations, history is one of the most instructive

of studies—in surgery, a study, unhappily much neglected. Here, again, I prefer to utter my thoughts after the model, and in the very words, of the great masters.

“It is not from the observations and the experience of a single man that the required knowledge can be obtained. It is necessary to collect the observations which are dispersed in the works of our predecessors and contemporaries. Without this work the greatest genius can only be an unenlightened and presumptuous practitioner.”¹

“The very highest study of all, I mean *the history of our science*, is very much neglected. It is too much the rage of our time to be satisfied with superficial and imperfect studies, with such scanty gleanings of knowledge as are to be gathered from mere school books and the mouth of a teacher. But I have to explain to you the importance of studying the history of our science. We have laying before us, challenging us to diligence, all the successive improvements of two thousand years. The study of these calls into action every faculty of the mind, fertilizes the invention, ripens the judgment, and makes us really fit to decide upon the modes and practices which are to be preferred.

¹ Préface aux Mém. de l'Acad. Roy. de Chir. p. 17.

By the exercise of the mind we become familiar with difficulties, for while we are studying the history of science, all the most new and important points are presented to us again and again, and discussed by various judgments and in various forms. Whosoever has thus neglected to study the history of our profession, has a narrow mind, and prefers the little opinions of his particular master to the accumulated wisdom of ages; he dwells with enthusiasm upon the names which have taken first possession of his mind, and never is he able to emerge from the atmosphere of the particular school in which he was bred."¹

"I must advise you not to confine yourselves within the narrow limits of modern publications, an error which is, I fear, too common at present, not only with medical students, but with practitioners. It is true that within the last fifty years a vast impetus has been given to our sciences, but it is equally true that they were cultivated not unsuccessfully before. There is no richer mine of surgical knowledge than that which is contained in the Memoirs of the French Academy of Surgery, and as far as I know there are no descriptions of disease more accurate and

¹ John Bell's Preliminary Discourse on the Education and Duties of a Surgeon.

graphic than those which have been bequeathed to us by Sydenham.”¹ “I have been sensible of two prevailing faults in the methods of teaching and of study. The first of these is the neglect or contempt with which many modern teachers treat the works of past ages. They neglect the learning of our profession; unjustly withholding praise from the benefactors of science who have preceded us, and present to their students a bad example, in despising the history of the art. The history of surgery must indeed be humbling to those, who spoiled by success, conceive that they are themselves the great authorities in the profession; for in that history we learn that art improves slowly, and by degrees scarcely perceptible in an age; and that what one man is able in his day to accomplish, is as nothing when compared with the accumulated knowledge which has descended from our predecessors. But it is not merely in diminishing the sources of professional skill that this disregard of study is to be deplored. The neglect of the literature of the profession deprives the student of all enthusiasm and love for it; he is brought up deficient in liberal views, and is taught to overrate the

¹ Sir Benjamin Brodie on the Studies required for the Medical Profession, in Lectures on Pathology and Surgery, 1846, p. 26.

importance of the person under whom he is educated, and to content himself with walking in the trammels of his particular practice. It may be *the interest* of teachers thus to keep the attention of students directed to themselves. It gives them a sort of personal elevation, while it saves them from the necessity of that continued exertion and perpetual renewal of study at every period of life, necessary to answer the demands of pupils who are daily becoming more learned in their profession. But it is a low ambition to grasp at the individual importance of the day that is passing, to the neglect of that permanent fame in the profession, which true knowledge and science confer."¹

I shall simply add, that the neglect of the study of historical surgery is growing more apparent ; hence, the greater need of a reform. The surgical works now published are strangely superficial ; a deeper examination of things cannot longer be deferred. Let us hope, that to such deeper examination we may be permitted to apply ourselves, with that measure of profit which always attends persevering cultivation of enlightened views. On another occasion I pur-

¹ Sir Charles Bell. Preface to Two Lectures on Injuries of the Spine and Thigh Bone.

pose to dilate on points here barely alluded to, to develop the scheme which appears best fitted to fulfil the wants of the present *Surgical Epoch*, and especially to lay down the plan which is to be our guide and foundation in the study of clinical surgery. I rely firmly on my students penetrating the spirit of my designs, and co-operating in their execution, with that love of truth, and of good intention, which affords joys so pure and warm, as to compensate even the greatest sorrows and trials of man's life. The compensation was designed—it rarely fails when men seek in earnest to avail of it : sometimes it does fail ; an unwilling admission, exacted by the rude exigencies of the truths of practical life ; but the exception illustrates the rule. Men are happy in proportion as they are wise. When the search and possession of wisdom brings sorrow, the sufferer is recompensed by the privilege of that ennobling feeling which always attends devotion to the cause of truth and virtue, in the largest acceptation of these terms.

I cannot conceal the unspeakable happiness of the reflection that opportunity is afforded me to put into practice the principles I have enunciated in the Queen's College at Birmingham and the Hospital by Royal Charter incorporated in its constitution.

I feel that I cannot more aptly conclude this Address than by reiterating the words uttered in this theatre a few weeks since, by the venerable Principal Booth, to whom allusion is impossible on my part without expression of gratitude for the sympathy with which he and the Reverend Chancellor Law, our Warden, have honored and consoled me.

“When many here present shall be no more,—when I, who now deliver these perishable words, shall have past from time,—when even that estimable man, to whom Birmingham owes the happy, noble, and incalculable advantages of these institutions, and to whom this Edifice itself will be a durable monument, shall be no more actors in this arena; let us hope that this Institution, still secured from enmity and oppression, and still dedicated to its great and good objects, will still remain a rallying point for youth who feel interested in maintaining the honor of their Alma Mater. We have no reason to suppose that our successors will look back on the proceedings of the College with any feelings but those of respect: they will see that our regards, not narrowed to our own little day, were extended forward to their days, and to the hidden days beyond them. Animated by the same pure ambition as the Founder and Promoters, they will advance know-

ledge in all the branches beyond the point at which they themselves became engaged in its pursuit ; and in their turn will cheerfully transmit it, by them increased, to other generations ; by whom, with the permission of Providence, it may be more cultivated to the end of time."



