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**Contributors**

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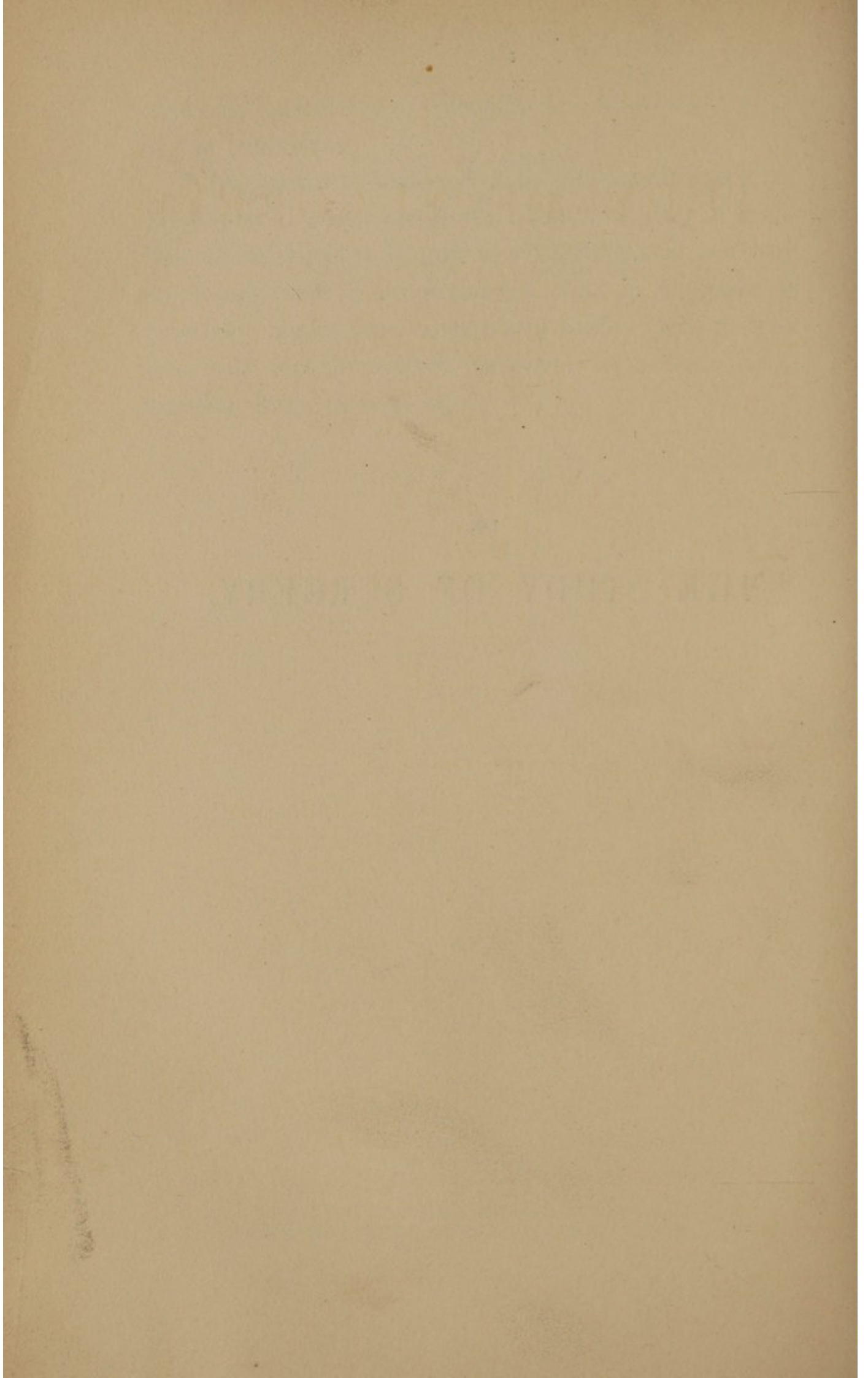
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ON  
THE STUDY OF SURGERY.



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ON THE  
**STUDY OF SURGERY:**

AN ADDRESS

INTRODUCTORY TO THE COURSE OF

**SURGERY,**

DELIVERED AT UNIVERSITY COLLEGE, LONDON,

AT THE OPENING OF SESSION 1850—1851.

BY JOHN ERICHSEN,

Professor of Surgery in University College, and Surgeon to University  
College Hospital.

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GENTLEMEN,

In addressing you for the first time as your Professor of Surgery, I feel that I have entered upon one of those periods of my professional career, which, being marked by the assumption of new and most responsible duties, must ever remain fixed in my mind as an epoch of peculiar interest and importance.

Under more ordinary circumstances, and in any other place than this, I should feel deeply the responsibility of undertaking to instruct a number of intelligent pupils in the Science and Art of one of the most important, perhaps I may say, *the* most important and difficult branch of our profession. But if this would be my feeling under other and more ordinary circumstances, how much more must I not experience the weight of my responsibilities in the position in which I am here placed? Were it only in being called to fill the chair of Surgery in so great an Institution as this at an earlier period of life than usually happens in the crowded and jostling walks of our profession;—as the successor of a gentleman who, by the soundness and practical value of his teaching, and by the uprightness and integrity of his character, has justly and deservedly won the esteem and respect of all those who came in contact with him; I should consider myself placed in a position that would require very



considerable exertion on my part to justify the selection that the Council of this College has made in conferring upon me so honourable a post as that which I now hold. Were these, I say, the only thoughts connected with this chair that pass through my mind, in now, for the first time, occupying it, I should indeed feel that I was entering upon a career of much labour, and of deep and anxious responsibility.

But, Gentlemen, many other recollections crowd upon my memory. When I reflect that I occupy the same position in this College, that has been successively filled by such men as Sir Charles Bell, Samuel Cooper, Syme, and Arnott;—that was, but a few short years since, within the ready memory of many of those whom it will be my daily duty to address, conjointly occupied by two of the greatest master-spirits in Surgery, of this, or, of any other country;—when I reflect that I fill a chair that has been adorned by the deep erudition and extensive acquirements of a Samuel Cooper;—from which that great practitioner of our art, Robert Liston, has addressed his invaluable precepts to you;—that I stand here as the successor, and so far as in me lies, as the representative of these great men;—it is *then* that I feel the full pressure of my responsible position;—that I am impressed with the conviction that it is incumbent upon me to endeavour to acquit myself in such a manner as not to be considered an altogether unworthy successor to these accomplished and skilful surgeons; to do what lies within the scope of my abilities to maintain the honour and credit of the Surgical School of this College as they have been transmitted to me by my predecessors; and to preserve untarnished the lustre with which they have surrounded this chair.

The full and clear and distinct knowledge of the difficulties, of the responsibilities, and I am not perhaps altogether wrong in saying, the dangers of my position; the knowledge of what *you* have a right to expect from me; of what my colleagues in office, and the Council of this College have a right to expect at my hands, is, I think, the best assurance



I can give you of my earnest and heartfelt determination to spare no exertion, to leave no efforts untried, to do MY part towards supporting this Institution in the high and honourable position to which it has been raised by the labours of those who have been, and of those who are, connected with it.

But, Gentlemen, not only for your sakes, not only for the sake of my colleagues, or even for my own credit's sake, constituting as these do singly and collectively the strongest inducements that could spur a man to action, would I cheerfully make no ordinary sacrifices of labour and of time to the duties of my office. But I have yet another incentive, if, indeed, any other were wanted to urge me on. Connected as I have been with this Institution from the very first day on which I entered the profession,—for considerably more than one-half my lifetime;—owing as I do to it the foundation of what professional knowledge I possess;—passing as I have done and still do within its walls many of the happiest hours of my life; and indebted as I am to it for many sincere and lasting friendships, some of which, indeed, have been but too soon, and suddenly and painfully severed by the hand of death; I feel myself bound by so many, and by such close ties of gratitude and of affection to University College, that, were I influenced by no other reasons, these motives alone would be sufficient to determine me to use my utmost efforts in supporting her in the high position she has attained amongst the Schools of Medicine of this metropolis.

It is customary, Gentlemen, and I think the custom is a good and useful one, not to plunge at once into the midst of our subject, but to preface the more serious business of the session with some general remarks, either of advice as to the way in which you should occupy your time, and of the course of instruction that you will have to pursue; or else, to direct your attention specially to that department of the profession, in the study of which we shall during the next six months be daily engaged together. I gladly avail myself



of the occasion that custom thus affords me of making a few remarks, that I might not have another opportunity of bringing before you, on the subject of our course ; and I purpose devoting this hour to pointing out to you what Surgery is, and to tracing the causes that have specially and directly led to its present high position in the civilised world. In this way I think we shall occupy the time more profitably than we should in laying down general rules for your guidance, with which, from the knowledge I possess of your characters and habits, I may safely conclude that you are already well acquainted, and but little require.

And first, Gentlemen, let us enquire what is meant by *Surgery*. I shall not attempt to give you any definition of this term: definitions are seldom very happy or explicit, nor do they usually include all the requirements of the case, and that of *Surgery* constitutes no exception to this rule. It is in vain that we look to the derivation of the word "Surgery" for its modern meaning—*Surgery*, *Chirurgia*, χειρουργον, hand-work, handicraft, is very far from being the Surgery of the present, whatever it may have been of a former day. It is true that in ancient times the surgeons were the handicraftsmen, the mechanics of the physicians ; those to whom were delegated the manual manipulations which the scientific physicians thought it a degradation to undertake. But happily for science and for mankind, these times have long since passed away, never to return ; and many ages have now elapsed since the Surgeon stepped beyond this, the original limit of his calling. It is long since the *hand* has been his sole dependence ; and it is now by the *head*, as much or more than by the hand, that he exercises his avocation. The great surgeons of the past and present century were not and are not mere workers with the hand, mere handicraftsmen ; but however skilled they may have been in the exercise of the manual part of their art, they yielded to none in any other department of our profession for the success with which they studied, and for the impulse they gave to the advance of



those great truths of Physiology and Pathology that constitute the basis of the science of Medicine as of Surgery. Nor again can Surgery justly be said to be limited to the consideration of injuries, and of those diseases that manifest themselves by changes of form, colour, or consistence apparent on the surface of the body: "*External Pathology*," as it is termed by the French. A very large number of diseases that are universally recognised as falling within the province of the surgeon are blood diseases, or affections that influence the deeper portions of our frame, making but little, if any, external manifestations of their presence. What then is Surgery? We may answer, that is that great department of the Healing Art which treats:

I.—Of the injuries from whatever cause to which the body is liable.

II.—Of all external diseases; and of all diseases that specially affect the organs of sense, of locomotion, and of reproduction of the male, as well as of the female.

III.—Of all those diseases that require manual, mechanical, or operative means for their cure or relief, and of the nature and application of these means.

IV.—Of the mal-formations to which the human frame is liable.

Thus it will be seen that Surgery occupies a wide field; the limits of which, though clearly and strongly defined on some sides, are not so on others; but so gradually fade and shade away into the other departments of our profession, that no distinct line of demarcation can be drawn between them, and it becomes perfectly impossible to say where one department begins and the other ends. In this respect the science of disease but partakes of the general law that we find exemplified in all the natural sciences, viz., that nature admits of no abrupt distinctions or demarcations; no arbitrary arrangements or classifications; but has united and bound together all her works in one harmonious and continuous whole; and not only can no line of separation be



distinctly and broadly drawn between Disease *Medical* and Disease *Surgical*, generally; but the same disease may, as it affects different localities, as it assumes slight modifications of form, or as it takes its origin from different causes, be sent, now into the wards of the Physician, now into those of the Surgeon.

The divisions, then, of the Healing Art, into several departments, is, in a great measure, arbitrary. But though arbitrary and artificial, it is highly useful, and is a necessary result of that division of labour which the rapid advance of science has rendered imperative, not only in our profession, but in most of the other walks of life. The circle of the medical sciences has, of late years, become so widely extended, and every spot within its area has become so diligently and closely cultivated, that it has become impossible for one intellect, however capacious and grasping, to master and retain the details of every department. It has become impossible for the same man to be able to cut dexterously for the stone, to tie an artery neatly and successfully, to be thoroughly conversant with the discrimination and diagnosis of the minute shades of cardiac and pulmonary disease, and to be competent to meet all the emergencies of childbirth.

The necessary result of this inability, on the part of any one man, to master the details of all the departments of the Healing Art, has been its division into two great branches—Medicine and Surgery—the latter including in reality, though it does not in this country by custom, the subdivision of Midwifery; which consisting in a series of purely manual manipulations and mechanical proceedings, is, in point of fact, a part of Surgery, though on account of its extent and importance, it has been separated in study and in practice from this branch of our art.

This division of labour has been attended with very considerable advantage to the public, and has materially conduced to the progress of science, as it has enabled professional men to devote themselves more specially to, and thus to acquire



a more extended and minute knowledge of, that department of their art, to which their tastes, opportunities, or mental and physical qualifications may more particularly have directed them.

But, Gentlemen, bear in mind, that though this division of medical science is highly useful and convenient, and has been productive of important results; it is, as I have already said, purely artificial and arbitrary, and has no existence in nature, and that you will be unable to move a step in practice without finding that these several divisions are inseparably connected and mutually dependent;—that it is impossible for a physician to exercise his calling without an acquaintance with those principles of Pathology and Therapeutics that are common to Surgery as to Medicine; and that no surgeon can act with safety to his patient, or with comfort to himself, unless he be conversant, to a great extent, with the details, as well as with the principles of Medicine. Indeed, it requires no formal argument to prove that the great principles of medical science, the laws that govern the human frame in health and in disease—those principles that guide us in determining the causes, the progress, the probable result, and the treatment of all deviations from the normal standard, must be the same, whatever be the organ or region of our bodies that is affected by disease, whatever be the particular tissue that is implicated, and whatever be the peculiar form that the malady may assume.

When we turn to the details of practice, it is true that the two departments of Medicine and Surgery, appear at first sight to be much more distinctly separated, and that we have little difficulty in referring each case that we meet with to one or other of them. Thus, a case of heart disease, or of typhus fever, lies evidently within the domain of the physician; whilst a broken thigh, or ulcerated leg, or strangulated intestine, as specially belongs to the Surgeon. But even here the distinction is not real, and these very examples that I have, almost at random, adduced, will, if closely



examined, show you how mutually dependent, how inseparably connected the two branches of practice are, and how their circles cross at many points. The broken thigh, the ulcerated leg, the strangled gut, are, doubtless, purely surgical cases, as exclusively so as any you can possibly have to treat ; and yet, in conducting these to a proper termination and cure, your treatment may have fully as much to do with constitutional or visceral, or, in other words, with purely medical disease, as with the local malady.

Take the instance of the compound fracture of the thigh. The fracture is reduced, the broken ends of bone carefully laid in apposition, and the limb neatly and comfortably put up in splints, which you may scarcely have occasion to disturb once a week during the treatment of the case. But does the Surgeon's business end here ? Does all his anxiety depend in maintaining the broken bone in a proper position ? If so, he would have but little disquiet ; for he knows that by keeping the injured part of a sufficient length and proper shape, by very simple mechanical contrivances, for a definite time, nature will firmly solder together the broken fragments, and a sound, and straight, and useful member, will result. But the patient has been habitually living above par, taking more stimulus, and leading a freer life than is prudent or right. On the third or fourth night after the accident, the surgeon finds that the pulse has become quick and irritable, the tongue coated, the skin moist and clammy, that his patient is wakeful, suspicious of those around him, irritable and talkative, and at last becomes furiously delirious. He now knows that he has been seized with that disease, which, in the surgical words, we call "Traumatic Delirium," but which, in the medical words, you will meet under the name of "Delirium Tremens ;" not excited, it is true, by a broken bone acting injuriously on an irritable and shattered system, but by some internal source of irritations, loaded bowels, or the effects of a severe debauch, operating on a similar constitution, and producing similar effects, to be met by the same



treatment as when they are the results of the fractured limb. Or, again, at the end of ten or twelve days, whilst the wound is suppurating healthily, and all is looking well, the patient is seized with severe rigors, his teeth chatter, reaction soon comes on, and at the same time an angry red blush makes its appearance about the wound, the secretions of which are dried up. Here we know the patient has been seized with erysipelas, to be followed perhaps by inflammation of the veins or of the absorbents, by pyemia, by pneumonia, and a train of the more serious secondary phenomena. Here the fracture becomes of minor moment; rest, and cleanliness, and position, are enough for it; but the surgeon requires to tax his *medical* knowledge to the utmost to carry his patient with safety through the superadded diseases.

Take the next instance:—A patient applies with an ulcer on the leg, small, painful, with a greyish, flat surface, and exuding no discharge, or what there is, small in quantity and bloody in character. You employ every possible variety of *local* treatment that your ingenuity can suggest, or you think adapted to the peculiar character of the sore. But no effort of yours can raise florid granulations, can make the surface pour out healthy creamy pus, or cause the formation around its margin of that delicate semitransparent blue line of new skin that the Surgeon loves to look upon. You go through the whole round of dressings and strappings; salves, lotions, and poultices are used, and all in vain. But look at the patient's tongue, enquire into the state of his digestive organs; you find him labouring under irritable gastric dyspepsia; cure that, and the sore will get well by the application of a piece of lint dipped in tepid water.

Again, in the case of strangulated hernia, you relieve the constriction in the most artist-like style. But if you cannot treat the accompanying or consecutive peritonitis, which, in many instances, differs in no way, except in cause, from that which arises from cold or from any other non-surgical



condition, your patient will die as certainly as if he had bled to death from a wound of the epigastric artery, or had been allowed to sink with the stricture unrelieved.

Thus I might continue giving you as many examples as there are surgical diseases and injuries, but that it were needless to multiply instances to prove to you that you cannot move a step in the practice of Surgery, that you cannot treat the commonest surgical cases, heal a wound, unite a fracture, treat piles or fistula, a diseased joint, strictured gut, or ulcerated leg, without being compelled to have recourse to *constitutional* treatment, without looking specially to the state of the digestive organs, kidneys, or lungs; without remedying disease lurking in one or other of these viscera, that keeps up or has generated the local mischief; without removing sequelæ or complications that differ in no way, except in their *causes*, from the same diseases that specially fall under the care of the physician.

Thus, then, Gentlemen, you will see that Medicine and Surgery, whether we regard them in theory or in practice, are one and indivisible, and that however convenient, however *necessary* it may be, in the present advanced state of science to arrange our cases under one or other denomination, this distinction is altogether arbitrary, that nature refuses to conform to it, and that we, in this as in all other matters, act most wisely in bowing to her dictates.

To some\* it may seem almost unnecessary to take this trouble to point out what would, at first sight, appear so obvious a matter—the unity and indivisibility of Medicine and of Surgery. But I have done so advisedly, because I know that an erroneous opinion is prevalent amongst the junior members of our profession; less now, perhaps, than it was a few years since, but yet prevalent to too wide an extent, and an error of grave moment it is, to look upon the

\* Those who wish to pursue this subject further should consult the works of Abernethy and of Macilwain, and a lecture by Mr. Lawrence, in the *Lancet* for 1836-37.



study of Surgery as distinct and separate from that of Medicine. I will not stop to enquire into the causes of the prevalence of this error, but, Gentlemen, let me earnestly impress upon you, that if you would be Surgeons, in the fullest sense of the word, equal to any emergency that may occur in the course of your practice, not to neglect the study of Medicine, but to look upon an acquaintance with its principles and details as an integral part of the study of Surgery.

Looking upon Surgery, then, as a segment merely of the great circle of the medical sciences, and studying it as a part of this great whole, we will now proceed to trace the causes that have, more particularly of late years, led to those great improvements by which it has been characterised. And in so doing we shall be enabled briefly to advert to the relations that exist between Surgery and some of the other branches of the Healing Art, by investigating, as far as our time will allow, the influence that an improvement in some of them has exercised on the general progress of Surgery.

It is not my intention to enter into the history of Surgery, it would be but little interesting or instructive to you were I to do so. To point out to you what a small share of surgical knowledge was possessed by the Greek Father of Medicine. How this was improved and extended, in its operative departments, by the surgeons of the Augustan age and earlier centuries of our Era. How it gradually sunk into almost utter extinction during the long night that overclouded Europe after the fall of the Roman empire. How on the revival of learning in Europe what remained of the science of Medicine was to be found in the cloisters, and how the knowledge of our profession, being confined to a priesthood which, acting on the doctrine that "*Ecclesia abhorret à sanguine;*" and which, denouncing Surgery as an art the practice of which was degrading to a man of learning, handed it over to farriers, to barbers, to bath-keepers, and to the veriest scum of society; a class resembling the cow-leeches and bone-setters of the present day. How from



“this dark night of unlettered ignorance” our noble and useful art at length emerged, and was gradually but slowly raised by the successive labours of Fernelius, of Paré, of Sennertus, and of Wiseman; until at length towards the middle of the last century it received an impulse by the combined labours of numerous surgeons of high repute and of extensive acquirements in every country in Europe—in Great Britain by Cheselden, Sharpe, the Munros, the Hunters, and Pott; in France, by the Petits, and by the members of the French Academy of Surgery; in Germany, by Schmucker, Richter, and Haller; and in Italy, by Lancisi, Morgagni, Troja, and Scarpa—which impulse has been continued through the immediate successors of these great men to the surgeons of the present day. It would, I say, be productive of but little interest or instruction to you were I to enter into a detailed examination of the various revolutions our art has undergone whilst thus feebly struggling through many ages into existence. But I think it will not be uninteresting, and it is certainly not unimportant to trace the causes that have, more particularly during the last half century, tended to raise the character of Surgery to a pitch and with a rapidity of advance that does not yield to that which has marked the progress of any other of the natural and applied sciences. An enquiry into the causes that have led to the advance of a science is not merely of historical or retrospective interest; but it is of *Prospective* importance, affording the best clue to those causes which will lead to further Progress. For by tracing the chain of causation from the past into the present we shall be better able to divine the probable direction that will in future be taken by our art; and by following this, be less likely to deviate from that path which will most readily and directly lead us to further discoveries and triumphs.

Surgery being but one branch of the Healing Art, has necessarily partaken of the advance that has characterised the whole of the medical sciences, and has been *indirectly*



influenced by a variety of circumstances that have tended to their onward progress. Amongst the more prominent of these, may particularly be mentioned the direction that the intellectual activity of the age has taken towards the study of the natural and applied sciences; which is due to the recent advance in all the branches of natural science, in chemistry, geology, mineralogy, botany, and zoology; and of which medicine, as a branch of natural and applied science, has fully partaken. Another great cause of advance consists in the growing and daily increasing tendency to trust solely to deductions from direct observation and experiment: and thus, by weighing and testing truths by means that are equally open to all, and of which every one possessed of the necessary powers for correct observation may freely avail himself, to be guided more immediately by these results; to bow with less respect to the influence of "*Authority*;" and to refuse to adopt mere surmises or statements or opinions, from whatever source proceeding, that are not the legitimate and logical deductions from carefully recorded observations. These and other similar causes may be said to have influenced Surgery, as a branch of natural science; but cannot be said to have exercised any special or peculiar influence on its onward progress, beyond that of other allied branches of knowledge. I will, therefore, content myself with merely alluding to them, as the *indirect* causes of the progress of Surgical Science; and will proceed to the consideration of those that have immediately and directly tended to raise it to its present high position.\*

The first great and direct cause of the advance of Surgery of late years, is, in my opinion, to be found in the rapid march of Physiology; in its more general cultivation by the profession; and in the immediate application of the results of

\* For a full and most admirable exposition of the causes that have led to the progress of *medicine*, I would refer to the eloquent address delivered by Dr. Walshe, at University College, at the opening of the Session, 1845-46, and published in the *Lancet* of Oct. 18, 1845.



physiological investigations, and of the laws that have flowed from them, to the science and practice of Surgery. Indeed, Physiology may be looked upon as the basis of all sound Surgery; without which no rational pathology or practice can exist: and it is only in proportion as we widen and strengthen this basis, that a durable superstructure can be raised.

It may almost appear superfluous to argue, and it may sound very like a truism, to state, that a knowledge of those actions that constitute disease, or that are necessary for the repair of injury, can only be correctly entertained by those who are acquainted with the acts of the system in a healthy state; that the only way in which pathological signs can be interpreted, is by a previous knowledge of physiological ones; that, as disease is merely an aberration of the functions of a part or of the system from health, a proper appreciation of the nature and extent of this departure from a normal standard cannot be formed, except by those who are previously acquainted with the operations of the economy in health, and with the mutual dependence on, and relation to, one another of those processes that are necessary to its maintenance. A correct and enlightened view of the living organism, as afforded by a comprehensive acquaintance with Physiology, teaches the Surgeon to appreciate at a glance that concatenation and sequence of changes that are the result of a diseased action, and to distinguish those disturbances that have resulted from the progress of disease, and that are consequently secondary, from those that constitute the primary and essential elements of the morbid condition. But it is not only in this manner that Physiology will be found to be of use to the Surgeon. The study of this branch of medical philosophy constitutes the best training that the mind of the young surgeon can undergo, preparatory to his entering upon the more special duties of his calling. An acquaintance with the laws of Physiology leads at once to a knowledge of the principles of Surgery, to which there is



but one step. It prevents, more effectually than any other course of study, that empiricism which springs from superficial knowledge; from an acquaintance with facts and details, without a sufficient insight into those great laws by which they are linked together, and to the operation of which they are subservient. There are many cases of doubt and difficulty constantly occurring, in which, from the rarity of their occurrence, or the number of modifying circumstances by which they are surrounded, there may be an impossibility, from experience alone, in laying down a definite line of practice. When a Surgeon, who merely trusts to his memory of facts and details, comes unexpectedly upon a difficulty such as this, through which his experience or memory affords no precedent to guide him, he is lost and embarrassed, knowing not how to escape; but let him be versed in those laws that regulate the action of the body in health, and he will at once be able to seize the clue that will surely and safely guide him out of his entanglement.

Another inestimable advantage of physiological knowledge is, that it prevents the surgeon falling into the empirical delusions of the day. It opens his eyes to the pitfalls and snares of Homœopathy, Hydropathy, or whatever other form the quackery of the hour may clothe itself in. And I do not know whether I may not venture to account for the fact of our so seldom seeing a SURGEON in the ranks of the empirics that infest the profession, by the happy union that has, since the days of Hunter, in this country, bound the study of Physiology to that of Surgery by a closer tie than links it to either of the other departments of the profession. Indeed, were I asked to point out any one cause to which, more than to another, we might attribute the high position that British Surgery has taken during the last half century, I would unhesitatingly answer that it is to the intimate connection that has existed between the study of Physiology and of Surgery during that period. In proof of my position, I might content myself with pointing to the array of most



illustrious names that have adorned, and that still adorn, the profession of Surgery in this country. The Hunters, the Bells, the Homes, the Astley Coopers, and the Abernethys, of a past generation, not to speak of the Brodies, the Lawrences, the Travers, and numerous others of the present day, have all been pre-eminently distinguished for their physiological as well as for their surgical investigations; their names are almost as familiar to us in connection with one science as with the other, and they have left the indelible impress of their genius on both. The mere mention of these names would be sufficient to prove the importance that men of the highest intellectual rank in our profession as practitioners of Surgery, have attached to the study and investigation of physiological laws and phenomena. But it would be easy to adduce many instances of the direct bearing of Physiology on the practice of Surgery, and, indeed, the instances that present themselves are so numerous, that the only difficulty consists in selecting one from the number.

The basis of all Surgical pathology and practice, the theory of inflammation and of the healing process, the mode of repair of injuries, whether of the soft parts or of bones, the arrest of hemorrhage from wounded arteries, and many other similar Surgical actions, are all purely physiological studies, a knowledge of which has been almost wholly acquired by an investigation of phenomena occurring in living animals.

As an illustration of the bearing of a simple physiological fact on practical surgery, take the case of the puncture of a large artery,—say one of the tibials,—and its treatment. A physiologist knows that the anastomoses between the arterial branches of every part of the body are so numerous and free, that it is impossible to prevent absolutely and entirely the influx of blood into a part, by deligating the main trunk leading to it; blood invariably finding its way into the vessels below the part ligatured; and that this blood is of a dark colour, having lost its arterial hue by the changes to which it is subject in its passage through the vascular



network of the limb. Surgeons overlooking this simple physiological fact, and thinking to arrest the flow of blood from the punctured and spouting vessel, performed the same operation that they would have done in a case of aneurism of the lower limb,—tying the femoral artery where it was most readily accessible, in Scarpa's triangle, or at some point above the wound. They found, however, to their dismay, that though bright arterial blood no longer spirted from the upper part of the wound, dark, venous-looking, blood continued to well out from the lower aperture in the artery; and that, unless some further proceeding were adopted to restrain this, they would as certainly, though not so speedily perhaps, but yet as surely, lose their patient by hemorrhage, as if no operation at all had been done. They had overlooked the simple physiological fact just mentioned,—that the ligature of the main trunk above the wound only stops the *direct* flow of blood, but that it cannot interrupt the collateral supply, which finds its way readily into that portion of the vessel below the ligature, and consequently continues to escape by the lower aperture in the artery. This, which may be looked upon as one of the fundamental facts of Physiology, and on which the success of Hunter's operation for the cure of aneurism depends just as much as the insuccess of the Hunterian operation for a wounded artery, has been most unaccountably neglected by surgeons since the days of John Bell, who distinctly and forcibly insisted upon tying the artery at the point wounded *below* as well as *above* the aperture in it, until Mr. Guthrie, having adduced numerous illustrations in support of this doctrine, has at length forced it on their attention: and we may now consider this important point of practice definitely settled by the conjoined authority of surgical experience and of physiological doctrine.

Important as an acquaintance with the great fundamental facts of Physiology thus is to the surgeon, and greatly as such a knowledge advances his profession, there is yet another application of Physiology to Surgery that has more particularly



and directly tended to the progress of our art. It is the application of physiological investigation to the direct elucidation of important pathological phenomena; and it is in this way only that the obscurity which enveloped many points in the pathology and practice of Surgery has been, and could have been, dispersed. This particular application of physiological investigation to practical surgery has been very properly termed "Experimental Pathology." It may be said to have originated with Hunter; and in his hands, and in the hands of a long line of distinguished surgeons, it has been productive of the most important results.

I cannot give you a better example of this than is afforded by the history of the use of the ligature. Now, the whole of the questions connected with this, the most important of all the surgical manipulations, by which alone operations can be performed without risk of loss of life from hemorrhage, have been decided by Experimental Pathology.

The ligature had been occasionally and partially employed by the later Roman surgeons, but with the decline of Surgery fell completely into disuse; giving way to such barbarous and inefficient modes of arresting hemorrhage as the employment of the actual cautery, the performance of operations with red-hot knives, the application of boiling pitch or of molten lead to the bleeding and freshly-cut surface. About the middle of the sixteenth century, it was revived or re-invented by that great luminary of the French School of Surgery, Ambrose Paré. But so slowly did the ligature make way amongst surgeons, that Sharpe, surgeon to Guy's Hospital, writing in 1761, two centuries after its introduction into practice by Paré, found it necessary, in his well-known work entitled "A Critical Enquiry into the Present State of Surgery," formally to advocate its employment for the arrest of hemorrhage from wounded arteries, in preference to styptics or the cautery, on the ground that "*it was not as yet universally practised amongst surgeons residing in the more distant counties of our own kingdom.*"



What, it may be asked, was the reason that it took two centuries to promulgate the use of the simplest and most efficacious means we possess in Surgery,—a means that no Surgeon could now for a day safely dispense with? The reason simply was that surgeons were totally ignorant of the means employed by nature for the occlusion of arteries; that they consequently knew not how to apply a ligature to these vessels, or what kind of ligature should be used; and that, in their anxiety to avoid the recurrence of secondary hemorrhage, and to make all safe, they fell into the very errors they should have avoided, and that they would have been careful to avoid, had they been acquainted with the Physiology of the processes that nature employs for the closure of the artery and the separation of the thread.

Between twenty and thirty years after the time at which Sharpe wrote, we find that Hunter introduced that great improvement in the surgical treatment of aneurism, the deligation of the artery at a distance from the sac, and in a healthy part of its course; but this great accession to the treatment of a most formidable disease—which, by the way, was in itself, in a great measure, a deduction from physiological investigations—was but coldly received, and ran some risk of being lost to the world in consequence of the ill success that attended the earlier operations. In Mr. Hunter's first operation four ligatures were used, some tight and others slack; the artery was denuded, so that a spatula could be passed under it; and although, in his subsequent operations, Mr. Hunter contented himself with employing but one ligature, yet the vein was included in this; and he did not draw the noose tightly, for fear of injuring the coats of the vessel, in accordance with the doctrine of the day;—surgeons generally at this time being haunted with this dread of injuring, and thereby weakening, the coats of the artery; and in order to avoid doing so, adopted modes of treatment that almost infallibly led to ulceration of the vessel and consecutive hemorrhage. The application of several ligatures



of reserve, applied slack—the use of broad tapes—the interposition of plugs of cork, wood, agaric, or lead—of rolls of lint or plaister between the thread and the vessel—were some amongst the plans that were in common use. And how can we be surprised that the patients perished of hemorrhage, and that the ligature of the vessel was nearly as inefficient and fatal a means of arresting bleeding as the use of a cautery, or of a button of white vitriol?

It was not until Mr. Jones, by an appeal to experiment, and by means of a series of admirably-conducted investigations, showed that the very point that Surgeons were anxious to avoid—the division of the coats of the vessel, by the tightening of the noose—was that on which the patient's safety depended; pointed out the form and size of ligature that was most safe; the degree of force with which it should be applied, and the processes adopted by nature for the occlusion of the vessel; that a more rational practice was introduced, and that surgeons at length had full confidence in the use of the ligature. The whole question of the arrest of hemorrhage, whether this be effected spontaneously, by ligature, or by torsion, has been entirely decided and placed upon its present secure basis by the application of "Experimental Pathology," to its elucidation. So also with regard to wounds of the intestines, various points connected with the mode of treatment of these injuries, such as the impossibility of obtaining union between the mucous and serous surface, the uselessness of introducing one cut end into the other—the part played by the investing serous membrane, and many other questions in connexion with this interesting subject, have been determined by Travers, by Jobert, and others, from carefully conducted experiment.

Take again another subject of much importance to the practical Surgeon—the admission of air into the veins in certain operations about the neck and shoulder. The questions as to the situations in which alone this accident can



occur—the mode of the admission of the air, the cause of death—and the methods of prevention and of treatment, have all been deduced by appeal to “Experimental Pathology.”

I would particularly recommend these investigations to those amongst you, who, having finished your studies, can, before entering upon the active and full practice of your profession, devote some time to an attention to its science; for not only in this way may you add greatly to the science of Surgery, but you educate yourselves to the observation and examination of vital phenomena. There are numerous points not yet decided that will occur to every enquiring mind, and which if carefully followed out and explored, would yield to the investigator important results, not only in such a degree of fame as attaches to successful scientific investigations, but in what is of much greater moment, the consciousness of having, to the best of his abilities, worked for the common good.

The increased attention that has of late years been devoted to clinical observation, has, in a special manner, tended to advance the study of Surgical Pathology. Surgery, more than any other department of the Healing Art, is of a practical and positive character. The more careful and extended manner, therefore, in which bedside observation has been conducted; the number of facts that have thus been accumulated, and the careful deductions that have been made from them; have been found of inestimable advantage to the progress of surgical science, and may certainly be looked upon as one great cause of its advance.

The very accumulation, however, of so large a number of facts and observations, has led to the practice of men of great experience and of sound general professional knowledge, concentrating to a certain extent their attention on particular points of Surgical pathology and practice. We have already seen that the extent of the medical sciences is so great, that convenience and custom have led to their division into Medicine and Surgery; and we shall find that each of these



divisions again has become too extended for most men, however gifted they may be, however great their opportunities, and however unflagging their industry, to cultivate each and every department with equal care. But with a profound general acquaintance with the whole range of Surgery, a surgeon may with great advantage devote his time and talents to the particular elucidation of some section of it to which his tastes or his opportunities have specially led him; and thus, by moving this favourite subject some steps in advance of where he found it, give a more decided impulse to the general onward movement of the whole of Surgery, than if his strength had been expended on too wide a sphere of action. This practice, which has prevailed of late to a considerable extent, has exercised a marked influence on the science and literature of our profession, and I may with justice adduce, as illustrations of the good results that have been thus obtained, the investigations of Sir A. Cooper on Hernia, on Fractures and Dislocations, and on Diseases of the Mammæ and Testes; those of Hodgson on Diseases of the Blood-vessels; of Lawrence on Hernia; of Brodie on Diseases of Joints; of Stanley on those of Bones; and of numerous surgeons on Diseases of the Eye and on other points of Surgery. But though I freely admit the great advantage that has resulted to Surgery by this concentration of attention on particular diseases, and recognise this secondary subdivision of labour as one of the great causes of the recent advance of surgical science; yet let me not, I beg of you, be misunderstood, nor let it be supposed that I advocate the general and indiscriminate establishment in the profession of what are commonly termed "*Specialities.*" I believe, as I have just said, that it is, in a high degree, conducive to the advance of surgical science, that men of sound judgment, of clear perception, and profoundly acquainted with, and devoted to, the general science and practice of the profession, should bring the light of their knowledge to bear upon, and should employ their opportunities to elucidate particular sections of



their own department of our art. But I do not believe that it ever has been, or ever will be, conducive to the interests of medical science; indeed, I believe that it is directly prejudicial to its proper cultivation; that men imperfectly acquainted with, and neglecting the great general principles and practice of their profession, should devote themselves to one particular, and, perhaps limited, class of disease; and neglecting all others, losing sight altogether of those intimate bonds that associate all diseases to which the human frame is liable, in one great nexus, and which render it impossible to study or to treat any one complaint without constant reference to those laws to which the whole of Pathology is subject,—for men such as these to set themselves up as the apostles and exponents of their own particular "*speciality.*"

In connexion with clinical observation and research, I cannot omit to mention the aid that Surgery has of late years received from microscopical investigations and chemical analysis. An acquaintance with the intimate nature of the process of inflammation and of its results; of the structure of various tumours and morbid growths, and of many diseases of the urinary organs, has been acquired through the medium of these invaluable means of research. To these means of investigation in the able hands that now wield them, amongst which I may with justice say, that not the least able are to be found within the walls of this College, we must look for much future advantage to our art.

In passing from the *science* to the *art* of Surgery, in turning our attention to what is commonly called *Practical* or *Operative Surgery*, it might at first be supposed that we had entered upon a new and distinct branch of our subject,—one, that being more or less completely separated from the general range of medical science, could not owe its advance to the same causes that have, as we have seen, tended to the great onward movement of the other departments of our profession. To a certain extent this is true; and there would appear to



be some circumstances that have specially tended to the progress of Operative Surgery in a separate and distinct manner from the rest of medical science. But a little reflection will prove to us that as *art* has been justly defined to be "*the application of knowledge to a practical end;*" so whatever advances and improves that knowledge must *pro tanto* advance and improve the art which is its application. It is true that the mere performance of a surgical operation, the mere act of cutting off a limb, of gouging out a piece of dead bone, of dissecting away a tumour, or of tying a vessel, is a pure instance of mechanical and manipulative skill; and I am not prepared to say that these acts may not be performed, and, perchance, be even skilfully done by men merely conversant with anatomy, but totally unacquainted with the principles and practice of Surgery. For that men ignorant not only of surgical science, but even of the very rudiments of anatomy, may occasionally operate with a certain degree of dexterity and success is shown by the proceedings of the professed Lithotomists, the Frère Jacques and Frère Cômes of the seventeenth and eighteenth centuries. That this may be done by any one gifted with those qualities which Celsus looked upon as necessary, and apparently *alone* necessary to a Surgeon, by any one who possessing some share of anatomical knowledge is endowed with the "*manu strenuâ, stabili, nec unquam intremiscente,*" by any one "*animo intrepidus, immisericors,*" is doubtless true. But this is not all that we look for in an operator; nor are these qualities, necessary though they be, those that we expect to meet with, or, indeed, those that we find in the most distinguished operators of the day.

Greatly as manual skill and dexterity are to be prized; diligently as we should endeavour to acquire the art of using our instruments with neatness, with rapidity, and with certainty; desirable as it doubtless may be to be able to remove a limb, or to cut out a stone in so many seconds; important in a word as it is to become DEXTEROUS operators, it is still



of far greater importance to become SUCCESSFUL ones.\* The object of every operation is the removal of disease that either threatens the life or that interferes with the comfort and utility of existence; and the more certainly we accomplish this, the better shall we do our duty to our patients, and the more *successful* shall we be as Surgeons.

*Success* then in the result of an operation, whether that result be the preservation of life or the removal of a source of discomfort, is *the thing* to aim at. To this dexterity and rapidity in operating are in the highest degree conducive; but there are various other considerations equally or still more necessary; the solution of which can only be afforded by an intimate general acquaintance with the *science* of Surgery and of Medicine. The diagnosis of the nature and extent of the connections of the local disease has to be made; lurking visceral affections must be detected, and, if possible, removed; the constitution of the patient must be prepared for the operation; the best time for its performance seized; and, after its completion, the general health must be attended to in such a way as shall best carry the patient through the difficulties he has to encounter: and any sequelæ or complications that arise must be met by, and must be subjected to, appropriate treatment. These, as well as the simple performance of the operation, are the duties of the operator; and on the manner in which these are performed, as much or even perhaps more than on the mere manual dexterity displayed in the operation itself, will the fate of the patient depend. It is well known that the *result* of operations differs much in the practice of different surgeons of acknowledged

\* Rapidity of operating, in the attainment of which it is to be feared that the safety of the patient was formerly often jeopardised, is of comparatively little moment since the introduction of Anæsthetic agents. The principal argument in favour of rapid operating was its curtailment of the sufferings of the patient. As Surgical operations are now almost invariably performed whilst the patient is rendered insensible by Chloroform, nothing can justify a Surgeon in attempting to operate with a degree of rapidity that is not perfectly compatible with the safety of the patient.



dexterity, and this variation in the proportionate number of recoveries cannot be accounted for by any difference in the degree of manual skill displayed in the operation itself; but must rather be sought in the greater attention that is paid by some surgeons to the constitutional treatment of their patients before and after the operation, and to their more perfect acquaintance with the general science and practice of Surgery.

Improved means of diagnosis, a better acquaintance with Pathology, and more rational and simple treatment, have exercised an important and marked influence in the progress of Operative Surgery, rescuing many patients from the knife by showing that various diseases, formerly thought incurable, are perfectly amenable to proper treatment. But whilst these means have tended to limit the employment of operative interference in some cases, a more correct diagnosis and more rational pathology have certainly enlarged the field of operative surgery in other directions. Thus, though surgeons are not so ready as formerly to amputate in many cases of diseased joints, which recent researches have shown to be more curable than was formerly supposed to be the case; yet this very improvement in pathology has taught them not to hesitate to remove tumours from the jaws, various growths from the neck, and to operate in cases of aneurism, that were formerly looked upon as *immedicabiles arte*.

But, though I would insist on the intimate connection that exists between the *science* and the *art* of Surgery, I do not wish you to think that it is my intention to convey the idea that a knowledge of the science *alone* will constitute a Surgeon; or that it is possible to become one without a complete and practical acquaintance with the *Art* of Surgery, with the manual and mechanical departments of our profession. No man can be considered a safe and able practitioner of Surgery, unless he be thoroughly acquainted with the details of his art, however minute many of these may appear to be. Though minute, they cannot be considered



trivial or unimportant, for as the whole aim of our practice should be to benefit our patients, whatever tends to this end cannot but be deserving of our fullest attention.

And, Gentlemen, allow me to digress for a few moments, to dwell on the great importance for you to endeavour to attain, by all means in your power, at the outset of your careers, manual dexterity and neatness. If you do not acquire this early in life, it will be in vain for you to seek it in the after part of your career. And if you fail in the *art*, however much you may excel in the *science* of Surgery, you will not be saved from discredit or from that inward consciousness and self-reproach, which, to an upright mind, is worse even than public discredit, of not being competent to do that which they who have placed confidence in you, who have entrusted their own lives, and the safety of those they hold dear, to you, have a right to expect.

In thus urging you to acquire dexterity and neatness in the manual departments of our art, I do not mean in reference merely to the more important surgical proceedings, but also in those thousand and one details that constitute minor surgery. Few amongst you may be called upon to engage largely in the performance of the more serious surgical operations; but you will all have to bleed, to pass the catheter, to set broken limbs, to strap and bandage ulcered legs, and, in the proper performance of these comparatively trivial matters, not only may the health of your patients, but your own future success in life, and much of the comfort in the practice of your profession, depend.

In no department of practice have greater advances been made of late years than in Operative Surgery. These improvements have consisted, not only in extending manual interference to an infinity of cases that were formerly considered to be beyond the pale of art, and thus restoring to health and activity many poor creatures who had otherwise inevitably been doomed to a life of suffering, only to be terminated by a miserable death; but also, and more particularly, in making



surgical proceedings, wherever undertaken, more simple in their execution, as well as more certain in their results.

If, standing as we now do in the middle of this century, we look back to what Operative Surgery was at its commencement, we cannot fail to be struck with the great triumphs it has achieved, and with the rapid advance it has made within the lifetime, and, in a great degree, by the assistance of many of the surgeons of our day. At the close of the last century, patients labouring under aneurism of any of the large arteries, except the popliteal and femoral, were left to perish unrelieved; but now, every arterial trunk has, with one exception (the brachiocephalic), been repeatedly ligatured with success. The removal of tumours from the upper and lower jaws, of many large growths springing from the neck, various operations on the eye, the excision of several joints, the operation of lithotripsy, the substitution of compression for the ligature of several of the larger arteries in the cure of aneurism, the section of tendons for the cure of distortions, of the recti muscles for squinting, and, indeed, the whole of the wide range of plastic surgery, are among the more direct and marked achievements of modern Operative Surgery. If, in addition to this, we mention the more rational treatment of wounds, whether accidental or surgical, and compare these with the complicated methods of treatment and of dressing formerly in use; and note the greater tendency to trust to the resources of nature, and less to the violent interposition of art; we cannot but be struck with the advance made in this department of our profession.\*

\* In connection with the recent improvements in Operative Surgery, it is impossible to omit the mention of the employment of Chloroform for the production of insensibility to pain. Without doubt, after the discovery which has rendered the name of JENNER immortal, the greatest boon that has been conferred by medicine upon mankind. It is to be hoped that this generation, less forgetful of its benefactors than a former one, will not allow the zealous and talented discoverer of the Anæsthetic properties of Chloroform, Dr. Simpson, to pass without a substantial testimony of gratitude for his invaluable discovery.



To what causes may we then with justice ascribe these great improvements in Operative Surgery? I have already stated that so close is the connection between the *science* and the *art* of Surgery, that whatever cause tends to advance the one, must necessarily, to a great degree, influence the progress of the other; and that in this way Operative Surgery has been carried onwards by those causes which were mentioned as the immediate agents in the advance of Scientific Surgery. But besides these there are some special circumstances to which we must more particularly and directly ascribe the improvement in Operative Surgery.

The great zeal and assiduity with which Anatomy has been studied must certainly be looked upon as the first great cause of this advance. That a correct and intimate acquaintance with the structure of our frame is essentially and absolutely indispensable to every Surgeon, is so evident that I need not insist upon it; and is so universally recognised that there would be but little chance at the present day of finding a surgeon unskilled in anatomy; and I do not think it at all probable that the terrible scene of a Surgeon ignorant of anatomy attempting an operation, which John Bell has depicted with so much graphic power, is ever likely again to be witnessed in our hospitals. And not only is the ordinary dissecting-room and regional anatomy indispensable to the surgeon; but he should also be well acquainted with surface anatomy, he should accustom his eye and finger to the correct outline, shape, and consistence of different parts of the surface of the body in its normal condition, in order to be able to form a correct diagnosis of the seat, the nature and connections of various diseases, of tumours, herniæ, &c., that modify the outline. This kind of anatomical knowledge is also of great value in ascertaining the nature and extent of various injuries. Fractures and dislocations about the shoulder, elbow, and hip joints are often detected, and their nature ascertained, only by a comparison with the normal



condition and relation of the osseous points and intervening hollows.

Another kind of anatomical knowledge that is also of special importance, is, an acquaintance with the appearances presented by tissues that have undergone various pathological changes; and it is desirable that the student should seize every opportunity of accustoming himself to the alterations in colour, consistence, and general appearance that tissues undergo under the influence of inflammation, infiltration, commencing suppuration, &c., and which, to an unpractised eye, renders it scarcely possible to distinguish them as the same parts that are familiar to it in a healthy state.

Another marked cause of the progress of Operative Surgery, consists in the greater simplicity of means employed at the present day, and in the firmer reliance on nature entertained by modern surgeons, than was felt by their predecessors. The instruments used, and the mechanical contrivances adopted, are divested as much as possible of all unnecessary complications; and at the same time that their simplicity has been increased, their efficacy has been proportionately augmented. We no longer see the *Armamentaria* of the older surgeons, in which every operation, and, indeed, almost every disease, had its own set of instruments and contrivances provided for it. But the modern Surgeon rather prides himself on the various processes to which he can apply the same mechanical means.

Not only have manual proceedings of all kinds been greatly simplified, but more trust has been reposed in the curative powers of *nature*, and less confidence placed in the constant interference of *art*. The doctrines promulgated by John Hunter relative to adhesion and the union of wounds by adhesive inflammation, gave, doubtless, the first impulse to a more rational practice. Before surgeons became familiar with these doctrines, the severity of operations was greatly increased, the cure retarded, and the danger to the patient proportionately augmented by the employment of various



agents and medicaments, the direct effect of which was, by exciting suppuration, by producing exfoliation, and other morbid actions, to oppose the efforts of nature in promoting the healing process. The modern Surgeon, on the other hand, follows nature as closely as possible; and finds that position, a few strips of plaister, or a little water dressing, are sufficient for the cure of the most extensive wounds.

The simplicity of practice thus introduced by the precepts of John Hunter, has been more immediately brought before the profession, and carried out in the full extent to which it is at present adopted, by the doctrines and example of the late Mr. Liston, to whom, in this, as in so many other departments of Operative Surgery, the profession will ever owe a deep debt of gratitude.

Thus, then, Gentlemen, you have heard that Surgery has been raised to its present state of high cultivation by being studied as a part of Medicine generally; by a close attention to Physiology, to Anatomy, to bedside observation and research; and by a firmer trust in, and closer adaptation to, the simple operations and processes of nature. In order to become sound and accomplished surgeons, you must study your department of medical science with constant reference to, and in connexion with, those other branches of the Healing Art with which it is so intimately allied; and you must found your practice on the attentive observation of the actual phenomena of disease.

But you must study and observe with unswerving diligence and untiring perseverance. There is no royal road, no short cut, to a knowledge of Surgery. An acquaintance with the principles and practice of our science can only be obtained by years of severe and self-denying labour. Some amongst you doubtless possess higher intellectual attainments, quicker perception, stronger judgment, more mental vigour, and may accomplish more within a given time than others; but let not those who are less gifted despair: let them bear in



mind that all may command industry and perseverance, and that these qualities, aided by a firm determination to succeed in whatever they undertake, will to a certainty lead to eventual success. It may be true that in the imitative, the plastic arts—in those matters that appeal simply to the imagination, and that are worked out by its aid alone—nature may do as much, or even more, than education or will; and that a man may be born, but cannot be made a sculptor or a poet. But this is not the case in a profession that deals with facts and their legitimate deductions. What is wanted for success in the study of medicine is industry in collecting, truthfulness in observing, and perseverance in studying the phenomena presented by the living body in health and in disease. If you will employ these means (and every man, by the exercise of a little self-denial, by a determination to allow nothing to divert him from his course, may do so), and if you will fix your gaze steadily on the point you wish to attain, your success in life, though it may be retarded or accelerated by circumstances beyond your control, will at last be secured; and when attained, you will have the proud satisfaction of feeling that you have won your spurs in the great battle of life without favour from any one, but solely by your own exertions and self-reliance, and determination to bear down and conquer opposing difficulties. I feel, however, Gentlemen, that it is scarcely requisite to point out to the students of this College the necessity of diligence and perseverance in acquiring knowledge. For many years the pupils of University College have been distinguished pre-eminently for their industry, and the attention they have paid to their studies. Not only has this been remarked within the walls of the College itself, but wherever they have come into competition with the alumni of other schools, when honours were to be won elsewhere, have they maintained this character. In proof of this, the lists of prizemen of the University of London, and the examination for honours at the Apothecaries' Hall, will afford the best illustrations. It is for *you*, who are about



to enter upon your studies, to maintain the distinction thus earned by your predecessors. And let me assure you, on my part, and on that of my colleagues, that we shall ever be ready to assist you in supporting the well-earned renown of the students of this Institution; and that all we look to for a continuance of that success which has hitherto attended their efforts, is a hearty and determined resolution on your parts to co-operate with us, a desire to emulate your predecessors, and to earn distinction for yourselves.

But, Gentlemen, remember that in a liberal and beneficent profession, such as ours, there is something more wanted than attention to your studies, than the acquisition of knowledge. It is an old saying that "*knowledge is power,*" but this, like many other trite sayings, is but partially true; it is not the whole truth; knowledge by itself is no longer power. It has become too diffused, is possessed by too many for it to confer advantage by its possession alone. For knowledge to confer power, that is to say, the respect and confidence of your fellow men, it must be conjoined with other qualities. Alone, it is not enough for permanent success in your profession; though necessary, most absolutely and indispensably necessary, it must be conjoined not only with the ability to use it, but with the determination to use it aright; to apply it to none but worthy and honest purposes. If you do not do this; if you fail to make a proper use of your professional acquirements; if you turn them to any unworthy or selfish ends; you may be successful, but your success will only be temporary, and will but render more bitter the eventual failure and disgrace that will eventually overtake you. If you will study the biographies of any of those men who have risen to acknowledged and *continued* eminence in our profession, (and I do not know a more useful and interesting study than this,) you will find, I venture to say, without one single exception, that in no one case has a high professional and social position been attained by professional acquirements *alone*, but that in every instance have these been conjoined with, and their



success secured by, moral rectitude, and by an upright and honest character.

Remember then, Gentlemen, that in order to win permanent success in our profession you must learn to deserve it. Ever bear in mind that you have entered a learned and liberal profession, the great object of which is to be of service to mankind ; an object more noble and exalted than characterises any other walk in life, and one which each of us should endeavour to carry out to the extent of his power. If you will keep this great object constantly before you ; if you will make it your daily prayer to Him from whom all knowledge is derived, that you may live to be of use to your fellow men ; if you will be guided in your intercourse with one another by a sense of honour, of candour, and of liberality ; you will not only possess an inward feeling of self-respect that will support you through the trials of life, but you will gain the esteem and affection of your professional brethren and of your patients, and you will consequently practise your profession in happiness and comfort.

In your intercourse with the public, conduct yourselves in a manner that is not only worthy of you as gentlemen, but in such a way as should characterise the members of a learned and dignified profession. Let no man say that it can signify little to the body to which he belongs how he may individually act. From the very first day of your career as students you constitute a part of the profession, and owe a duty to it as well as to yourselves, and may, according as you act therein, exercise an influence for good or for evil upon it. The profession to which you belong will be judged of in a great measure in your own circle, by the friends who immediately surround you, from your behaviour. Let that, therefore, always be marked by liberality, by courtesy, by truthfulness, by the cultivation of the amenities of polished life ; in a word by all that should constitute the character and deportment of a gentleman. Let these be the guides of your conduct, not only as students, but in after life, when you will be called upon to



take your part in questions affecting the interest and welfare of the body to which you belong ; endeavour then to act, not merely for your own interests, nor for the interests of your own class or section of the profession alone, nor for the advantage of this Institution or that College ; but act to the best of your judgment in an enlarged and catholic spirit of liberality, with a hearty desire to do what seems best to you for the profession as a whole, and for the general welfare of its members.

If you will do all this, if you will ever be on the watch to increase your professional knowledge, by constant observation, by daily study and reflection ; if you will never lose sight of the true and noble object of your profession, that of utility to your fellow men ; if in your intercourse with your professional brethren and with the public, you will ever be guided by principles of honour and of candour, and by an abnegation of self-interest ; you will live to be respected and beloved by those who know you best, you will have the inward satisfaction of knowing that you pass an honoured and useful career, and, amidst all the trials and anxieties and difficulties that will at every turn meet you in the most anxious and responsible of all professions, you will never have cause to regret the day on which you have become one of its members, or to envy those who follow other, and perhaps more prosperous walks in life.

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