

Oration delivered before the members of the Hunterian Society, at the twenty-fifth anniversary / by John Hilton.

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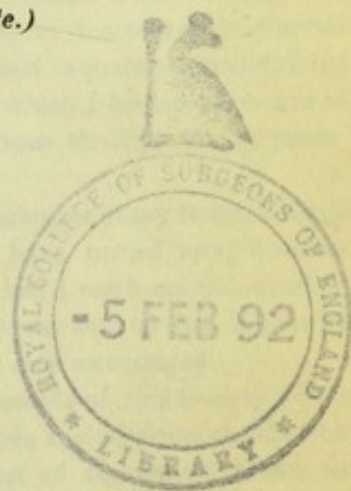
MEMBERS OF THE HUNTERIAN SOCIETY,

At the Twenty-fifth Anniversary.

BY JOHN HILTON, Esq. F.R.S.

LECTURER ON DESCRIPTIVE AND PATHOLOGICAL ANATOMY, GUY'S HOSPITAL.

(From the London Medical Gazette.)



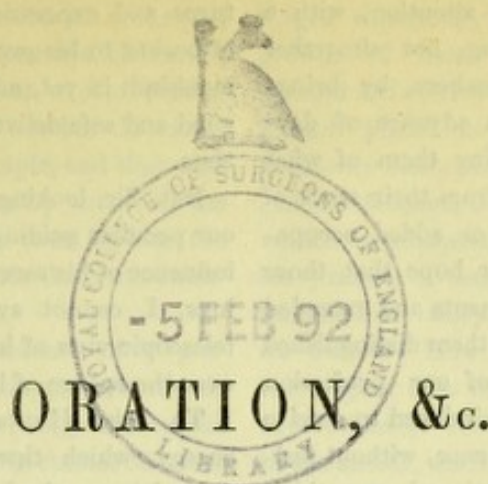
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MR. PRESIDENT AND GENTLEMEN,

It has often been remarked, that when a stranger enters St. Peter's, at Rome, for the first time, the immediate impression is one of disappointment; the building looks smaller than he expected to find it. So it may be said of the first sight of mountains; their summits never seem so near the clouds as we expected to find them.

But a closer acquaintance with these, and with other grand and beautiful objects, convinces us that our first impression arose, not from a want of greatness in what we saw, but from a want of comprehensiveness in ourselves to grasp it.

What we saw was not all that existed, but all our untaught glance could master; as we know it better, it remains the same, but we rise more nearly to its level; our greater admiration is, indeed, but the proof that we are become able to appreciate it more truly.

Something of this kind, modified into adaptation, will exemplify what have been my feelings regarding myself and the Hunterian Oration; such was my early misconception of what I had promised, that whilst I was a looker-on through the vista of a twelvemonth, it seemed, at that distance, simple, easy, unimposing, and almost unassuming, to engage to prepare a short discourse.

As I had been journeying on the circle of the last year, and so brought nearer to the object, divested of the long shadow of a

coming event, I obtained a more exact view of what I had voluntarily undertaken.

I confess myself chilled and embarrassed by its nearer approximation, and by its importance; and although attracted by the aspect it wore, I was indisposed, until compelled by stern necessity, to enter upon its details. Thus far, the analogy was faithful to the oration, and impressively true to myself.

As I became better acquainted with its intended comprehensiveness, and the necessity for its completion, through the rigid and unvarying admonition of time, I am compelled to admit, that whilst I found myself quite equal to a proper appreciation of my difficulties, I felt equally certain that I was not rising more to their level. I could not, by any diversion, or temporary interpretation, induce myself to praise an undertaking the fulfilling of which I had so much and so justly admired from the lips of my predecessors.

With such harbinger of my result, I would most willingly have turned away from its contemplation, had I not been restrained by a sense of what was due to the Hunterian Society and my own consistency.

The public records of this Society do not furnish or provide any direction for the character or subject of the annual Hunterian Oration; this probably intentional omission of its earliest proposers and advisers, left me no alternative, but to select some considerations, not aspiring to novelties, but to which

I thought I could draw attention, with a slight hope of their being, not altogether unprofitable to some members, by bringing before them facts in advance of days gone by, or by reminding them of what may have been displaced from their stock of memory by fading time, or added occupation; and in the further hope that those others, whose high attainments and extended experience have rendered them distinguished and lustrous ornaments of our profession and this Society, might be induced to receive them with solicited indulgence, without feeling that they have sanctioned any thing unworthy their presence, or that they have done more than sacrifice their time in aid of the Society's established custom, and added a required encouragement to a good intention on the part of one of their associates.

The name of this, the Hunterian Society, gives the first claim to the memory of a man now more than half a century the child of history, but whom, nevertheless, be deemed, by reflection, the parent of this Society. For although its archives do not hold his autograph, it adopted his name as its leading feature; it received from him, through those taught by his former pupils, its earliest members, the impulse of existence, the fruitful seed of that character for sound practical observation, for proper appreciation of facts, and love of truth, which continue to uphold it conspicuously in a community redolent with talent and accumulating intelligence.

To the Hunterian Professor at the Royal College of Surgeons belongs, essentially and specifically, the completion of another portrait of John Hunter: upon him will devolve, to-morrow, the reanimation of his mundane existence, the tracing from his birth the gradual development of his character and acquirements.

It will be for him to shew the influences of education, and natural predilection, on his career; to examine the means and appliances which he made serviceable; to raise up, in high and bold relief, the superstructure of his active mind; to place before his audience the immediate consequences, the progress, and the results of his doings; to lay open, expose, and place in their proper light for transmission or reflection, the fea-

tures and expression of a life whose extent of benefit to his profession, and real good to mankind, is yet, notwithstanding the many good and safe deliveries, within the womb of time.

But, Sir, looking upon John Hunter as our peculiar guiding-star, and admitting the influence of his ascendancy over our proceedings, I cannot avoid taking a transitory telescopic view of him, and the light he shed over the sphere of his occupation.

To John Hunter belonged an untiring energy, which thwarts procrastination or forgetfulness; he had inherent in his nature an enduring perseverance worthy the object, and equal to the destination he had planned for it.

If we refer to his course of varied pursuits, we are compelled to admire the zeal and indomitable industry which he employed to lay the foundation for that splendid and unique museum which now shines forth bright with science, and radiant from its Hunterian nucleus.

Hunter dwelt and communed with nature all the days of his professional life; he watched her proceedings with an earnest anxiety to explore her deep recesses, and to understand her emanations. He became the companion, but the humble servant, of nature, following her, with gentleness and respect, through many of her infinite windings and mazes, noting with admiration the succession of her proceedings, and thence denoting honestly his own opinion of her laws, or what seemed to him to be the impelling, the guiding force: thus he became the translator of the book of nature, and his eye could detect design and beauty where the atrabilious sceptic beheld nothing but confusion and deformity. His mind contained the most estimable and enviable power of ascending, by self-acquirement, from particular facts to that broad generalization which has given him a just claim to human originality, by the establishment of fundamental principles.

By his elaboration and legitimate influence, a large number of facts, in which, before, order and connexion did not appear at all, or appeared by partial and contradictory glimpses, were brought into a point of

view in which these properties of order and connexion became their essential character. By him it was shown, that a contributing fact, although dislocated, was but the manifestation of the same principle, and that each particular was what it was by virtue of the same original impression: thus by him the inscription was decyphered, the truth enunciated.

His was not the refinement of a pre-meditated or specially adapted education. We may discover in his writings that he did not possess that exactness in the use of words which leads to the most precise expression; his was not that instinctive, harmonious, glowing language, which would express less if uttered more. Indeed, we cannot deny that some of his ideas are invested with much obscurity.

With his facts perhaps recently acquired we may see the rapid flow of reasoning flooding over, or breaking down, its natural bounds; his super-imposed inferences, full of expanding truth, seem to oscillate and tremble when tried against the weight of true induction.

His literary compositions may be indistinct by their fulness, and dark with abundant meaning: they have been accused of incomprehensiveness, yet, as a whole, they have withstood the swelling conflux of time and opposing circumstances.

Some of his opinions and conclusions freely promulgated, perhaps too freely, deduced as from nature, rude in form—hence not her transcript—these, nurtured by nature's self, and to us immature, have remained nearly inviolate, and will doubtless continue for the mental plenitude of successive generations, to ponder and dwell upon as sacred veiled truths—

“ Like words
That leave upon the still susceptible sense
A message undelivered—till the mind
Awakes to apprehensiveness, and takes it.”

Hunter's reputation was not of that parasitical character so often witnessed, and of which he himself became subsequently the support; he was the sturdy oak, he was not the ivy: he laid the basis of his own elevation; he saw himself raised up into acknow-

ledged superiority by the development and growth of those germs he himself had planted and cultivated. When he discovered himself placed in that proud and isolated position, which proclaimed him, by almost general consent, the regenerator of his art, we see no poisoned weapons cast down upon his jealous or aspiring cotemporaries, no unmeasured vanity for himself, no contempt for others. How striking and pleasing in this respect does the contrast appear in the expressions of Hunter and Paracelsus, each in his zenith, each addressing introductory remarks to a course of lectures to his own pupils.

Hunter says, “ I do not mean that all I say in this course will be new, that none of the opinions and observations which I shall deliver are to be found in any publications; but many of my ideas, and the arrangement of my subject, are new; and consequently my terms become in part new.”

Paracelsus lived when a bald head and a long beard were considered as wisdom and intellectual: I think he must have taken as his prototype, Zoilus of old, the pretending critic of Homer and Plato, who always kept his head close shaved, believing that the hairs of his head would have acted as so many suckers, drawing away the nourishment from his chin, and by that means have starved his underhanging, and, in his opinion, his understanding, beard.

But to Paracelsus:—He exclaims, “ I would have you to understand, that the meanest hair on my head knows more than all your writers put together; the very buckles on my shoes are more learned than your Galen and Avicenna, and my beard has more experience than all your academies; nor is the hour far distant when I shall see the swine pulling my opponents through the mud.” No wonder he was proud of his beard, that he could sing his own praises so well, and was disgusted with swine; for at three years old he is said to have been made an eunuch by a sow.

Hunter was not successful as a public teacher: why was this? May we not apply for Hunter the reasoning employed by Socrates under similar circumstances? Socrates, who was the son of a midwife,

used to say, "that as my mother, although she is very skilful in her profession, cannot deliver a woman unless she be first with child; so neither can I raise knowledge out of a mind where nature has not planted it." It is true Hunter did not attract a *large number* of congenial minds; but he taught and directed Home, Baillie, Wilson, Chevalier, Abernethy, Carlisle, Coleman, Macartney, Astley Cooper. *Each* of these was *himself* a host.

Hunter aimed at final truths, which only meditation can discover, and only experience recognize. His was an ascendancy, the fruits of a life of accumulation. His opinions may fall; but his facts are immutable, imperishable; they belong, not to years nor to ages, but to all time, and stand secure,

"Like some tall rock, whose bare broad bosom
high
Towers from the earth, and braves the inclement
sky,
In conscious pride, its hugh gigantic form
Surveys imperious, and defies the storm."

He has left a name which must be held in praiseworthy remembrance by the whole world, but especially by his countrymen, so long as honourable industry and integrity shall be considered virtues—so long as contributions to science, and the benefit of mankind, continue passports to distinction and fame—so long as a proper sense of humanity has a place in the human heart.

Leaving the further consideration of Hunter to the appointed authority at the College of Surgeons, I wish to remind you of one of the several means which appears to me to have been made largely available in raising our profession so near to the character of a science.

We have in our times, hydropathy, homœopathy, neuro-pneumatism, neuro-magnetism, mesmerism, and other doubtful, if not *untrue-isms*, lashing propriety and common sense with loud and precocious display: we may hear—

"These partial spirits now aloud complain,
Think themselves injured that they cannot reign;
And own no liberty but where they may,
Without control, upon their patients prey."

To the biography of science, these hypotheses will appear only as so many names

gilded by fashion (that unwholesome arbiter of right) with gaudy and meretricious colours; they add nothing to the science of our profession, nor will they append any thing permanent to the basis of our principles of practice; they are the dissolving views of the day.

Sixty years ago, Dr. William Hunter, a man of deep thought, and great foresight, in one of his lectures says, "Were I to guess at the most probable future improvements in physic, I should say, that they would arise from a more general and more accurate examination of diseases after death. And were I to place a man of proper talents in the direct road for becoming truly great in his profession, I would choose a good practical anatomist, and put him into a large hospital to attend the sick, and dissect the dead."

Such was the opinion of one of the most distinguished men of his day; and we cannot but remark, how curiously true and prophetic it has been, as regards the source and means of elevation, adopted by all the truly great in our profession, since that time, and I should say also, of the steady and certain improvements in our knowledge of disease.

But, gentlemen, let me divest your patience of any thing like alarm. It is far from my intention to attempt the placing before you the accumulation of opinions and facts convergent to the present period of professional acquirement.

Our profession may now be considered a compound of science and art; yet we must acknowledge, as a science, it is very imperfect; and daily experience compels us to admit, that, as an art, it is most difficult and perplexing.

In all ages we may discover many authors, who publish their opinions, if, for no less worthy object, certainly for the purpose of obtaining experience and practice.

Others, the true benefactors to the profession and to the community, write their experience for its own sake; from an honest belief and conviction of its intrinsic merit, as a worthy contribution to the existing stock of knowledge.

If you would desire to see, and to appreciate, the value of facts in pathological ana-

tomy, look to the mass of books of our profession, brought to light during the early part of the last century, and compare them with those which bring us to our present period.

With few (but most honourable) exceptions, you will find the former occupied with dogmatical language, replete with conflicting uncertainties, the leaves covered with presumptive and grandiloquently expressed opinions; whilst those of the later date (but also with some very striking and much to be regretted exceptions), will be found teeming with pathological facts, well observed, and properly associated with symptoms during life, based therefore on physiology, with opinions promulgated as fair deductions from them.

If you admit this simple and plain proposition, that diseases are to be understood and treated according to their nature, and not in reference to their names alone, you at the same time, and by the same expression, acknowledge the value and importance of morbid anatomy.

The full admission and completion of this proposition has led to the very just opinion, that a great part of the successful treatment of disease depends upon the clear discrimination of disease.

In the practice, at least in the honest practice, of our profession, the first thing to be done is, to ascertain if possible the *actual nature*, not merely the symptoms of the disease presented for our opinion.

A professional man ought to endeavour to answer severely and satisfactorily, this self-interrogation—Am I certain of the nature of this disease, the cause of the symptoms?

If the reply be satisfactory, I need only appeal to your recollections, to remind you of the agreeable confidence you obtain in your subsequent plans of treatment.

I have no hesitation in stating my conviction, that too many of the profession treat the symptoms, and omit the other considerations as to cause.

There are others, who, from want of time or habit, or from other unintelligible influences, do not even take the trouble to analyse the symptoms, so as to elucidate their origination; or, to separate those which

belong to the predominant disease from those which may be accidental, without any necessary association with the disease to be treated.

Symptoms of disease are only the expression of suffering, or uneasiness on the part of the organ or organs diseased.

Symptoms are, *if properly appreciated*, the external demonstration of internal derangement; and we know by experience, that they may exhibit themselves at the seat of the disease, or somewhat removed from it.

Patients judge of their disease by the symptoms; we ought to judge of the symptoms, by the disease, by the cause, by the pathological anatomy of the symptoms.

I suppose we must on reflection arrive at this conclusion—that the laws of animal organization, of health, and normal function, have been the same from their first existence. Nor can I suppose it will be doubted, that the symptoms of the *same disease* have been always *the same*. The same symptoms have constantly presented themselves for observation, soliciting prehension from successive generations: why were they not understood? why never properly appreciated, nor attached to structure?

I think it will be admitted, that one of the great, if not the greatest of the contributing causes, towards elucidating diseases, and dragging them, by the weight of facts and by the force of reason, from the contracted thralldom of nosology or nomenclature, and towards fixing the principles of the practice of medicine and surgery on a sound broad basis, may be found essentially in the more exact observations on the results of disease—their pathological anatomy.

In the practice of medicine, the greatest assistance has been derived from the study of morbid anatomy, associated with symptoms.

What has led to the extraordinary and astounding precision, now so frequently presented to us by some of the profession, in distinguishing, locating, and treating diseases of the chest. It may be replied, auscultation; but a moment's reflection will convince us, that, without the confirmation, the crowning mark of pathological anatomy, it could not have proved any thing. Auscultation has only given you additional means of

exploring, it gives you the symptoms; morbid anatomy explains to you the cause of the symptoms.

The pathological anatomy of the lungs encourages the hope in all of us, and to many gives the proof, of the curability of many cases, formerly grouped under the unstructural and indiscriminating denomination of phthisis.

Post-mortem evidence has separated the heat of pneumonia from idiopathic fever; and although it has done little towards stating what fever is, it has done much towards proving what it is not; namely, that it is not, as we were desired by the would-be authorities to believe, an uniform, recognizable, structural lesion.

Post-mortem examinations have demonstrated that many diseases of the chest depend upon the want of due relation between the capacity of the lungs for ærating the blood, and the size of the organ for circulation; that these organs become cause and effect to each other's diseases: to be in perfect health, they ought to be in perfect equilibrium.

The more frequent causes of very sudden death are now proved to be at the heart, and not in the brain, as formerly supposed; the symptom is the same, it is apoplexy still. It was always cerebral, it is now generally cardiac.

The secretion of air by serous membranes will be proved to be a mere supposition, growing out of imperfect examinations after death.—How many causes has morbid anatomy enabled us to discover for dropsy, formerly classed as a disease, now admitted to be only a symptom?—By what means have we arrived at our present knowledge of the immediate and the remote effects of renal disease, with its modifying influence upon other local or general affections, if not by morbid anatomy?—Whence will be derived the truth, which is now gradually evolving itself, whether coagulable urine may depend upon other lesions, with or without disease of the kidney? I say, morbid anatomy, in a great measure. I believe more careful observation after death will shew us that internal hæmorrhage, by exudation or transudation, is at most a very rare occurrence,

and that hæmorrhage from the nose, hæmoptysis, hæmatemesis, hæmorrhage from the bowels, and hæmaturia, are local defined lesions, ruptures or ulcerations, very small, but discoverable by care and perseverance.

It appears to me very difficult to imagine or to understand that local condition of blood-vessels which will allow general exudation or transudation of blood through their parietes at thousands of points at the same time. If it were from congestion, the very circumstance of the blood escaping at one point would prevent a further escape, by taking off distension.

On the other hand, several cases of internal hæmorrhage, which would, with the ordinary routine at post-mortem examinations, have been put down as from exudations, I have myself proved to have been caused by very small ulcerations, not larger than the head of a pin, or by the rupture of a very small blood-vessel.

From examination after death, of cases observed during life, I am confident that some of the cases of chronic rheumatism, and those cases which are known by the obscuring titles of chronic rheumatic affections, are, much more frequently than is supposed, diseases of the nerves; and, I may add, that the cause of such symptoms is very often discoverable, by tracing the anatomical associations of the nerves of the part.

When we inquire into our actual and positive knowledge concerning the diseases of the nervous system, the different opinions and prevailing uncertainties, which are daily witnessed concerning the same case, offer any thing but a very favourable indication; yet, upon a retrospective view, we are very far in advance of our predecessors; an improvement depending very much upon an improved pathological anatomy—the more accurate association of disease to symptoms.

We are yet deficient in that precision, as to cause of symptoms, which I have mentioned as now so ostensible in diseases of the heart and lungs. Many causes contribute to this: an incapability of positive discrimination as to the cause of nervous function, or of making any just comparison between it and physical agents with the properties of which we may be familiar;

a want of *very* accurate observation and notation of symptoms during life; defect on the part of the necroscopist in detecting disease with accuracy, when indicated only by slight changes in colour and in consistency, or in properly attaching either or both of these evidences to their true causes, whether *ante* or *post mortem*, &c. &c.; these, and many other real and important considerations, in reference to the ages of the patients examined, might be mentioned. What geography is to the truth of history, anatomy is to practical medicine and surgery. Our first and great imperfection in the nervous system is due to our deficiency in the anatomy of the brain and spinal marrow. It is at present unsatisfactory to the best anatomists.

I think I need only remind many whom I have the honour to address, of those halcyon days of study at *alma mater*, *dura mater*, and *pia mater*; of the lobes, of the different corporate bodies, thalami, hippocampi, tænia, fornix, eminences and depressions, septa and surfaces, columns and commissures, glands, and admitted dark places, &c. &c. which were then found in the brain, to obtain their acknowledgment that the anatomy of the brain required improvement and more certainty.

If I advert to the large and more recent foreign importation of unmeaning anatomical nomenclature, I apprehend it will be confessed there is yet much to be done towards exposing and elucidating the real structure. Look, for example, at that colony of new names now located on about an inch of the cerebellum, including, literally, a valley, its flocks, its fissures, its specific and little hills, three commissures, two pyramids, a tongue with wings, a spigot, a nodule, a uvula, an almond-like body, &c. &c. These, and other names, have got possession of this unhappy valley; but I hope not a fixity of tenure. I think I shall, after this enumeration, gain the admission that there are but few competent to examine this organ with due minuteness, and a full appreciation of appearances.

It is consoling to know that there have been, and are still, worthy labourers in this field of inquiry. Some may, by too hasty

conclusions, be gathering unripe fruit; and putting it by most surely to spoil and decay. There are others who, after clearing away much of the fulness of rank vegetation, and who, availing themselves also of the prepared ground, have sown, and are sowing, seed, which may be slow in growth, requiring much irrigation of industry and talents, and many genial minds, before it ripens into fruit, yet it will assuredly become fit to be gathered, and time must disclose who shall be the reapers.

The sphere of surgery admits the full importance of pathological anatomy. Scarpa says, the brilliant progress which surgery has made in modern times is only the result of pathological anatomy; that is, of exact comparisons of the natural state of our organs, with their different diseases; and that it is from the same source that the most rational curative means with which modern surgery is enriched are deduced, as so many corollaries—methods to which we are indebted for the perfection of operations.

The surgeon, before he commences an operation, likes to feel assured of the exact nature of the disease. Before he makes his incision, he reflects on the changes of relation, of form, of texture, of appearance, which may have been induced in the part by disease. To appreciate these he must refer to morbid anatomy.

Pathological anatomy suggested to John Hunter the right treatment of aneurism; to Dupuytren, the cure of artificial anus; to Scarpa, it explained the cause of hæmorrhage after operation for inguinal hernia.

How much has been accomplished by it, in reference to diseases of the joints, in our days, in defining the character, in locating the seat of the diseases, and in identifying them structurally; thus leading to more successful modifications in the plans of treatment. But I am satisfied we have not yet approached the confines of the maximum of benefit to be derived from treatment of joint diseases.

An amputation is but the admission of inability to cure a disease; the higher praise rests in the successfully avoiding the mutilation; and many limbs, which formerly would have been amputated, are now cured.

Excision of joints accrues from observing

that the disease is frequently, nay very generally, confined to the immediate neighbourhood,—a fact ascertained by morbid anatomy, and its consequences not yet carried out to their fullest extent.

How many emasculations are now avoided by a more exact observation and recognition of the diseases of the testicle. A few years ago, it was a common thing to see the testicle removed; now, however, in consequence of our more accurate information as to the character of its diseases, cases are so successfully treated without the knife, that an amputation of the testicle has become a comparatively rare operation.

Look at what was accomplished through pathological anatomy, associated with symptoms during life, by the energetic mind and able hands of Sir Astley Cooper: his works on hernia, diseases of the breast, and testicle, replete with sterling merit, bespeak the results. The community experiences the advantages, the benefits, of his researches.

Recent pathological investigations have shewn surgeons that ultimate success, in most operations, depends more on the proper selection of cases, and their subsequent treatment, than upon the completion, or immediate effect, of the operation itself. The causes of death, after operations, are generally concealed in visceral disease. Death seldom happens from the operation itself; and pathological anatomy, or post-mortem evidence, points distinctly to the kidneys, the lungs, and the liver, as the organs which most frequently determine the fatal issue; need I do more than ask you to consider how many important suggestions arise out of this evidence.

How many deformities are now remedied by acting upon the pre-acquired necroscopic fact, that a distorted joint is not necessarily a diseased joint, but a secondary effect of contracted muscles?

What has led to that diversity and inequality of opinion, now discoverable, as to the propriety of the operation for strabismus—an operation, which has added much to our usefulness, and so added another laurel to the profession, by enabling many persons to see their way, in this world, better and straighter than before? But time has shewn, as con-

nected with this operation, that there are many persons who have a right to complain of that sudden ebullition of professional anxiety to improve the appearance of mankind, which induced some surgeons to seek after, and solicit, this operation, and by which patients were led to submit to it. These patients have suffered from that pre-voyance of success and reputation which led those peculiarly philanthropical operators to believe they could mesmerise, and annihilate for ever, by the touch of the knife, every species of visual obliquity.

Why has this operation disappointed so many of its admirers and advocates? It results, in my opinion, in a great measure, from the treatment being directed solely against the symptoms, without reverting to the causes, of that want of harmony of action, and of that deficient equipollence, which may have induced the obliquity.

It may be adduced, as another of the advantages to accrue from the study of morbid anatomy, which points out the causes of strabismus, as numerous, differing, and various, and requiring not an uniform, but a discriminative, and an adaptive treatment.

As regards the operation most recently before the profession and the public—that of removing ovarian tumors. The propriety of the attempt originates in the pathological facts, that ovarian disease is often a simple cyst; that even when malignant, continues for a very long time an isolated disease; that the surrounding structure may remain unimplicated in the same disease for several years, although the ovarian tumor itself may be far advanced.

But this is an operation which is very likely to be thrust back again into obscurity, if not by other more legitimate and natural means, certainly by its over zealous advocates, who do not take into due consideration the varieties of ovarian disease, its varying associations with different periods of life, and numerous other contingencies.

There are those, who now look upon this as a fixed and settled operation, as an operation justifiable, by having already a proportion of success as great, to the whole number, as other important operations. Applying statistics, where they appear to me to be

most inapplicable, namely, to the determining the treatment of disease, I would remind those who employ the statistical reasoning as their oracle, that it necessitates that every case, unsuccessful, as well as successful, shall have been published, which may not be the case.

To apply the numerical method to this, or any other operation, it infers that every case shall be known to the person who is to draw the inference: it ought to infer also that all the cases were sufficiently alike to be properly grouped together. Suppose these, and a number of other considerations, granted, and brought by the numerical enthusiast to determine in his mind the propriety of an operation, any result at which he may arrive can only apply to that which is past; it cannot, by any fine drawing, or by any distortion, be made to influence any *certainty* as regards the very next case which may present itself. That will be a fatal or successful case, obviously independent of any thing which may have preceded it. Each case must be treated on its own intrinsic merit.

To make statistics available in the prospective treatment of disease, you ought to have, what it is impossible to obtain, the definite number to calculate from, perfect similarity throughout, in those cases already past, and a complete certainty of an exact correspondence in all the cases to come. It is to my mind a fallacy, to treat practically, medical or surgical cases, or to attempt to determine the propriety of any operation by statistical inferences alone: the inferences may look well on paper, but they are too much on the surface of cause and effect to add any thing satisfactory towards a right and safe conclusion.

As well might the cosmologist, for the purpose of instruction, expect to ascertain the exact position and relative quantity of earth and water composing the globe, by cutting out, with the greatest diligence and extremest nicety, the different portions of each from a map. He would know nothing of the depths of the rivers, or the heights of the mountains; nor would he, by such means, make himself acquainted with those treacherous shoals and quick

sands buried in the restless ocean, but ever ready to ingulph the unwary; nor could he indicate those death-striking upheaved rocks, or coral reefs, which lie submerged in the wild waste of waters, and become the great danger to secure and safe navigation.

Our general monitor will not allow me to do anything like justice to the conclusive evidence which pathological examinations present, of the unintentional but fatal injuries inflicted upon patients by the empirical, unscientific, force-employed treatment, of stricture of the urethra.

Many persons think that a little blood lost during or after the passage of the catheter, for retention of urine, or of the sound, for the cure of stricture, is of no importance, nay, rather beneficial. The introduction of the sound or catheter, to be harmless, ought to be bloodless; and every drop which escapes is the mark of undue force.

I wish I could induce those persons who compete with stricture of the urethra, *vi et armis*, to think, and reflect a little, upon what they are doing, when, as they term it, they are trying to overcome a stricture, and lastly succeed; not by going through the stricture, but by tunnelling the walls of the urethra.

To those, who, in spite of all obstacles, will always succeed, or will never fail or be foiled in passing a catheter, when prompted more by personal vanity than by the *necessity or emergency of the case*, I would say, beware of producing a state of things certain to eventuate in those incidents of mischief which every man ought to try to avert; and which must be deeply lamented by those who have contributed to their occurrence, when unavailing, and beyond the reach of remedy.

To those who persevere in bringing about such direful results, and who cannot, or will not, hear the still small voice of reproving conscience, let me urge upon them the solicitations of pure humanity, which begs for more gentleness from their hands.

These are a very few small fragments, from the great mass of daily acquirement, which I have thought right to detach, for your consideration; and although they have been most imperfectly displayed, I hope they

carry with them the evidence of some of the advantages to be derived from the study of pathological anatomy associated with symptoms during life.

But in pathological investigations we must not be satisfied, or think our task completed and concluded, with a minute examination of the solid products of disease, however carefully displayed by the scalpel of the most expert dissector.

If we resolve to ascertain the origin of the minute changes which structures have undergone in disease, or the causes of the more obscure and general affections, and to fix with human certainty the constitutional treatment of disease, we must carry our inquiries into the preceding agent or pathogenesis. We must solicit, with patience and endurance, more exact information regarding the functions of the nervous system, the healthy and unhealthy constitution of the blood, and other animal fluids. The study of molecular changes in structure, and of the alterations taking place in the animal fluids, is but a more refined species of anatomy.

The mechanical process of the scalpel being here inadequate, the microscope, and the exact process of analytical chemistry, are to be made available in detecting minute variations in the solids and fluids, which must otherwise have escaped our notice.

But to the still inquiring mind it is obvious, that, although morbid anatomy, thus carried out, may be the cause of the symptoms of a disease, it will show us only the changes which fluids or solids have undergone—the results of an antecedent agent, the effects of abnormal action, produced during life by and through matter under the influence of vital endowments: and here I would remind you, we have reached or gone beyond the limits of certainty, and we must invoke to our aid, as a means of comprehension, general physiology, or our imperfect knowledge of the laws of organized and living bodies.

The inquirer into such ulterior investigations has to deal with the complex properties of matter in their most complicated form; matter whose composition surpasses his intelligence, matter which the chemist may be capable of analysing to a very minute degree, even to what may be to him its constituent

ultimate elements, yet, notwithstanding the tremendous progress made in animal chemistry, he (the chemist) must admit that he wants the chemical proof by synthesis—that his science is perfectly inadequate to the reformation, or reproduction, of any of the organised solids or fluids. It is, in fact, matter interwoven with the properties of unsubstantial life, held together and controlled by a law known only to the Law-giver.

If the most astute mind should attempt by experiment, or the microscope, the search for first causes, the genesis, when he imagines himself actually at the focal point of his long and arduous observation, at the moment he invests himself with the hope, and probably the belief, that he is at the very threshold of the hidden truth, the vital principle which contains the solution of his difficulties baffles him; collecting all his mental vigour, and art-full appliances, he strives, as it were, to seize the wished-for treasure by force. But, alas! the human energy which he employs, and the transient violence which he uses, defeat themselves, and the body dies, that it may preserve the secret of its life—known only to Him whose extent of knowledge is infinite.

Those theorists who maintain most strenuously the possibility of tracing the phenomena of life to the influence of physical or chemical agents, are constantly obliged to suppose a mode of agency altogether different from any yet known in physics or chemistry, and so, unconsciously, allow, what no efforts can avoid or conceal, the vast but inscrutable chasm between chemical and vital affinities—between mechanical and vital forces.

Into this unfathomable depth our science has, as yet, cast no ray of light, nor reason caught sight of any general law by which it may securely hold. Human science, conscious of its own insufficiency, stands aloof, in mute admiration of that rule of action by which development, assimilation, and secretion, are made the living manifestations.

Notwithstanding this impassable boundary formed by an element inappreciable to our senses, it is within the sphere of human intellects, by the aid of inferences drawn from experiment and observation on appropriate facts, so to construct a science which, necessarily imperfect, susceptible of constant

improvement—hence a continuing stimulus to mental exertion—may, by the process of induction, be made capable of identifying and indicating sound principles competent to direct the judgment.

In conclusion, I must add, there seems to be a law wisely prefixed for our improvement, that after the phenomena of life shall have quitted their temporary habitation on earth, the physical signs of previous disease should remain for a period almost stationary.

Would it not have been as easy for Omnipotence to have converted the material body into thin invisible air at the same instant with its death, as to have created it?

Must it not, then, have been preordained that a certain, but undefined, time shall intervene between the disappearance of life and the full development of those chemical laws and affinities which regulate, *by slow degrees*, the disposition of inanimate or dead matter.

It is from the dead body we are to draw our first principles. We can reflect upon the superaddition of life to matter, and, by

reasoning upon it as if endowed with life, *hope to come to right conclusions.*

When we approach the consideration of life itself, or the spirit, we are self-restrained by our finite reason. All is darkness to the human understanding. We know not how the union was produced at first, nor do we know how it happens that the blow which prostrates the body, and imprisons it in the grave, gives pinions to the soaring spirit, crowning it with freedom and triumph. We believe the soul is destined to live

“Unhurt amidst the war of elements,
The wreck of matter, and the crush of worlds.”

But, gentlemen, these are mysteries locked up in the omniscience of the Creator. They are as inscrutable to the sage as to the savage—alike to the philosopher and the uninitiated. They are left, and no doubt purposely, to make us set only a right value upon all human science; and, while they form the groundwork of man's future happiness, forcibly point to him, that his proper and legitimate path to it is, through the gate of humility.

