

**Inaugural address delivered on the ninety-seventh anniversary of the  
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**Contributors**

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# INAUGURAL ADDRESS

DELIVERED ON THE

21

NINETY-SEVENTH ANNIVERSARY

OF THE

## MEDICAL SOCIETY OF LONDON

BY

JOHN GAY, F.R.C.S.,

President.

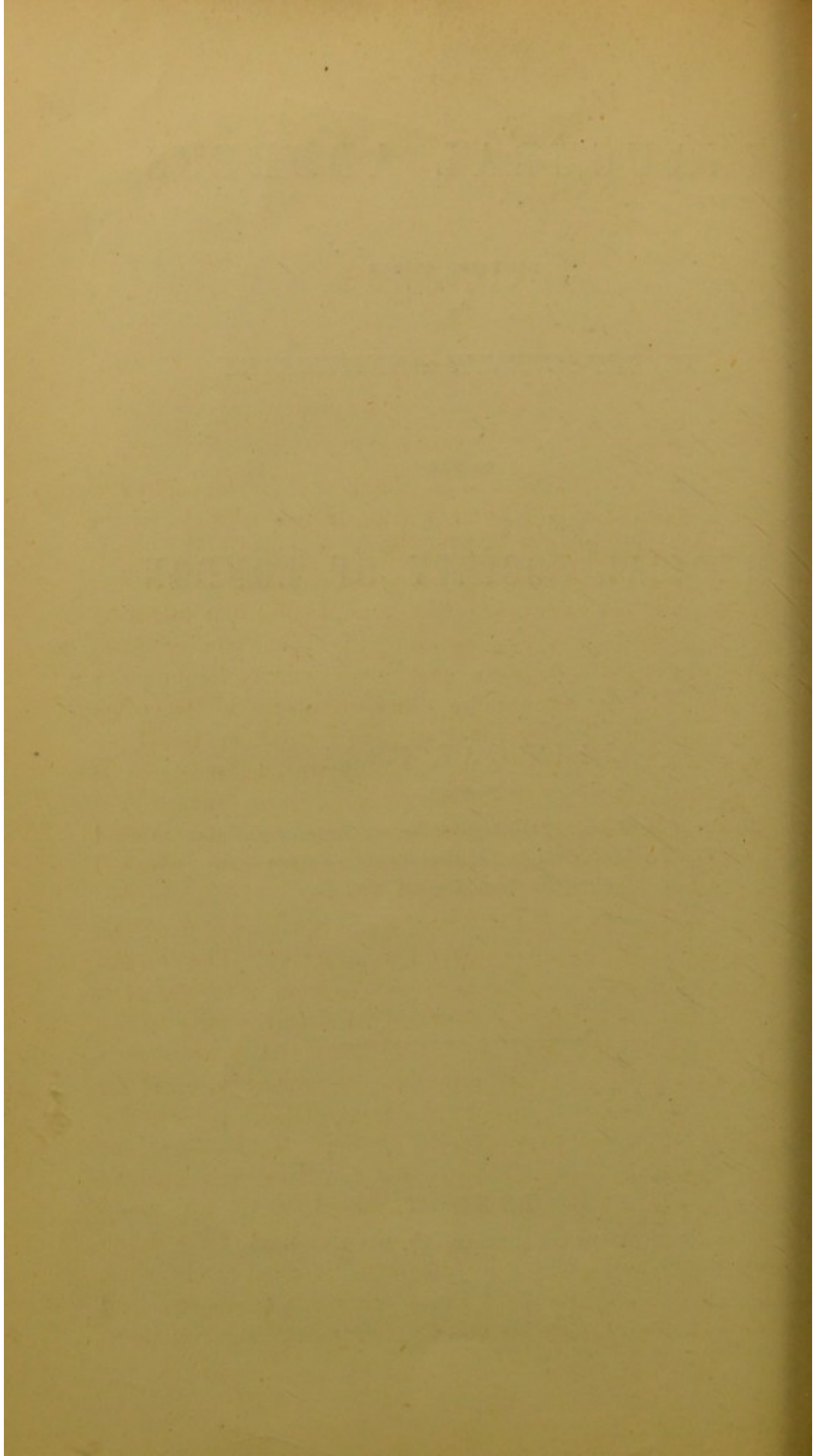
*Member of the Council of the Royal College of Surgeons of England ;  
Vice-President of the Pathological Society ; Surgeon to the  
Great Northern Hospital, &c., &c.*

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1870.





## ADDRESS.

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GENTLEMEN,

I have first to thank you for the marks of your favour and confidence shown me in my selection for the distinguished position I have the honour now to fill.

I accept the trust from my able and excellent predecessor, Mr. Marshall, who has brought his year of office to a successful close, not without a keen sense of the responsibility it entails; and I am only encouraged in undertaking its duties by the assurance of my obtaining that co-operation from my fellow-members, without which, with the best efforts that I can give to it, I shall in vain strive to maintain our Society in its wonted efficiency. I venture this evening, in accordance with custom, to address to you a few words, and I do not think I can select a better subject than the Society over which I am called to preside.

The Medical Society of London is now almost a century old. It has completed its ninety-seventh anniversary. The changes which it has undergone since it has been in existence have been perhaps less than the measure which usually falls to the lot of such Institutions. It has had its dark days and its bright ones. It has been imperilled by avowed enemies, for the earliest records in its Transactions tell of serious dissensions within its borders; then of a lull, but no peace, for what had been dissension soon became open mutiny, and a contemptuous Fellow directly charged the Society with being "a cabal of parties." These words appear to have stung deeply, for they called forth a resolution by way of rejoinder, "that they were known to be a notorious falsehood," and shortly after by the more painful act of expelling the said Fellow,



a hospital physician, from the Society, as a security against future trouble.

It has suffered too from the supineness of its friends; and on one occasion from a division, which led to the exclusion of a portion of the Fellows from their rooms on the accustomed night of meeting,—in short, by a regular “lock-out;” so that it has been tried at all points, but it has stood its ground bravely, and still not only lives, but thrives, seeking only the respect to which it is entitled, not on account of its age, but for its works. The hand that “blots old books and alters their contents,” has neither marred its features nor traced a wrinkle on its brow. As it has been passed to each in succession of that long list of honoured men, whose names adorn these walls, so it appears to have gained from their genius, their zeal, their aspirations respectively, those renewals of vigour and dedication to the great work for which it was instituted and that have sustained it to the present hour; and if I am asked for any living testimony to its intrinsic worth and vigour, I have only to answer “*circumspice.*”

Taking my stand then upon the assertion that the Medical Society has so long existed, because it has had about and within it the essential elements of endurance, and that it has been worth preserving, it is not perhaps a task altogether foreign to the present occasion to enquire in what those elements have consisted. In other words, What does it do? what does it not do?

In the first place, this Society does not specialize any one disorder or class of disorders, the diseases of any one separate *tissue, part, or organ* of the body, or any distinct branch or division of medical science, to the investigation of which its energies are exclusively applied.

To the class of specialists, so called, or to the abstract workers in the different departments of medical science—such as, for instance, minute or descriptive anatomy, advanced physiology or pathology—our meetings would hold out, perhaps, few attractions as the means by which the sum of their knowledge respectively could be materially augmented. Still our doors are not closed against any communications, however abstract or special, so long as they are identified with



its great object, the progress of the healing art; and, moreover, as by one of those incidents through which all really earnest bodies seem, as by an inherent law of their nature, to be compelled to complete themselves, so amongst its earlier institutes is that of an annual series of lectures—the Lettsomian, which is devoted especially to the promotion of our science in its higher walks. I have only to point to the series of these lectures that are to be found in our Library to prove that their institution has done good, earnest work, and that it has contributed efficiently towards the elucidation of some of those questions which it is the object of that science to solve.

It is not to be denied that the subdivision of labour, either by mapping out the body and allotting its separate organs or parts to specific workers, or that the isolated investigation of its subsidiary and most closely allied sciences, has not been without a manifest advantage to our profession. Societies are in existence which have abundantly illustrated the truth of this position:—Societies which have earned to themselves the respect and gratitude of all throughout the world who take an interest in the promotion of medical science. All success to such societies.

Nor is it to be contended that the long established custom of subdividing labour in connection with therapeutics into the different provinces of the physician, the surgeon, and the obstetrician, is without its advantage to the profession. It has given to the *eye*, and the *ear*, and the *touch* of the physician that exquisite tact and sensibility which are so essential to the discovery and appreciation of those delicate shades of evidence by which internal or hidden diseases in all their minute reality are dragged before the mind, as though in the light of day;—to the *surgeon*, that skill in the use of the mechanical appliances of his calling which daily exacts from the world its wondering and grateful homage;—and to the obstetrician that marvellous control over the powers of nature which makes his help godlike to save in the most terrible surges of human travail and helplessness. But it must be conceded that it is *art* as contra-distinguished from the *science* of medicine that has been furthered by this triple subdivision of our labour. It avails little in the search after



the laws which manifest themselves in those complex phenomena of the living organism which we sum up as its vital action, the knowledge of which, I need hardly say, constitutes the *science of medicine*. These are only elicited by enquiries which embrace the constituents of the organism in their minutest details, as well as in their more complex parts, and not only as presented in man, but throughout the entire series of beings which constitute the animal and vegetable kingdom. Nay, they go below and subsidize that vast treasury of truth which is embodied in the inorganic world. Hence all knowledge, and all forms of knowledge are subordinate to, whilst accessory to the advancement of medical science; and best proclaim the goodness and wisdom of the Almighty Father, as they best do His will, by furthering its one great scheme—the redemption of humanity.

It is, Gentlemen, in a measure to aid in this design, that, as I am about to show, the Medical Society was founded. To that object its earliest labours were directed; and it is that to which, if we are true to the trust reposed in us, we shall continue our fealty.

On the shelves in our Library are some rather ponderous tomes, which, with some lamentable interruptions, contain a transcript of its proceedings from its commencement in 1773. We will take a still further glance at the few first years of its history, for the purpose of ascertaining the will and design of its founders, and, as I venture to predict, we shall be repaid for the few minutes that I shall ask you to give to it. These records are in outlines, but they have all the vigour of the outlines of a Retsch. They require no filling up to answer their purpose, although an unobjectionable curiosity might wish that, here and there, to some of the sketches a little more fulness or even shading had been given.

The Royal Society had existed for more than a century, nay 130 years. Michael Servetus had been offered up a holocaust to the malignity of Calvin, and Harvey had finished the great discovery of the circulation. Sydenham, who, on enquiring how he could best study the profession that he was destined to exalt, was told to watch the sick and read “Don Quixote,” had inaugurated the modern educational scheme by formular-



izing clinical observation and asserting its primary importance ; whilst Valsalva and Malpighi, Morgagni and Haller, and finally John Hunter had well nigh completed it by showing that the facts derived at the bedside could neither find their exposition in the exploits of the "Knight of La Mancha," nor interpret themselves, but that in order to become matters of absolute science and prospectively of any therapeutic value, they must be brought into reciprocal relation with and borrow light from the confederate sciences of anatomy, physiology, and pathology.

It was then, when the Royal Society had given an impulse and earnest to philosophy which it had never before known ; when medicine had thrown off the trammels of empiricism which had gathered around it, and more or less obscured it since the dark ages ; and when, like the "star in the east," it had begun to attract the magi of all lands ; but when, alas, it was also but too manifest that a blight had fallen on the heart of the Master, and that his great spirit was drifting too quickly towards the "sable flood," that the Medical Society of London took its rise.

In this conjuncture, a small band of zealous and learned men met together, and set about searching for a place of resort at a rental not to exceed £10 per annum. After applying in vain at the "Queen's Arms," the "Sun" taverns, and elsewhere, they found a resting place in Crane Court. As we have seen, they quarrelled, but they soon made their differences up, for they were the quarrels of lovers, not so much of each other, as of their *common cause*, which Dr. Lettsom, their leader, had pronounced to be "*the promotion of medical information.*" They were not ordinary men. I question whether in the history of Societies such a phalanx had ever before gathered together with so much zeal, and with so much devotion to their cause. At their earliest meetings were to be seen Lettsom as their leader ; Sims, the author of "Observations on Epidemics and on Nervous and Malignant Fevers," and on the "Method of pursuing Medical Science," both translated into the French by Jaubert ; Bland, who wrote of "Deaths from parturition ;" Bancroft the author of a work on "Yellow Fever ;" and Dr. Percival, the advocate of inoculation : Hulme, who treated of "Puerperal Fever" and the "Stone," and made ex-



periments on Light; Dr. Garthshore, whose work on "Extra Uterine Cases and Rupture of the Tubes and Uterus" is yet instructive; Millar who discoursed wisely "on Change of Public Opinion in regard to Religion, Politics, and Medicine," as well as on "Asthma and Hooping Cough;" Sims, the biographer of W. Hunter; Dr. Simmons; and subsequently such men as Blizard, Earle, Hurlock, Blumenbach, Cogan, Abernethy, Clutterbuck, and Wheeler;—the last some of us here may remember to have been a chemical lecturer, and to have seen as an aged man taking his walk for his morning beverage to the pump in the square of St. Bartholomew's Hospital. According to the picture by Medley hanging against these walls, they must have constituted a picturesque and somewhat august party; attentive to order and scrupulous as to personal appearance to the extent of wigs, knee-breeches, and shoe-buckles; the tri-cornered hat, brown clothes, and grey hose, like the "blue and buff" of Jeffrey's celebrated Journal, being apparently the outward insignia of their order.

Their fame soon spread to distant lands, for amongst the transactions of the self-same year, the first of the Society's existence, we find a communication from Meckel of Berlin. He had, he said, succeeded in injecting the fœtus through the uterus of the mother. A Parisian lady, too, named Dorothea Anna Maria Lucia Hoger Horick Von Lobreckt, sends them a dissertation. The Society appears to have rebuked this as an innovation, for they direct the dissertation to be returned, with an answer to the said lady, "wrote in Latin." Perhaps, at this time, it would be as well to suggest a reason for this somewhat unchivalrous act, as none was given. Did they think thus of woman's mission, in the words of our illustrious poet:—

" Let her make herself her own,  
 To give or keep, to live and learn to be  
 All that not harms distinctive womanhood.  
 For woman is not undevelop't man,  
 But diverse.       \*       \*       \*  
 \*       \*       \*       But this is fix'd  
 As are the roots of earth and base of all:  
 Man for the field and woman for the hearth,  
 Man for the sword and for the needle she;



Man with the head, and woman with the heart;  
 Man to command and woman to obey.  
 All else confusion?"

But to return. Fellows of the Royal Society desire admission—Tighe, Bancroft, and others; and also learned doctors from the Continent—Christianus Gottefriedus Gruner, physician to the Duke of Saxe-Weimar, and Professor of Medicine in the University of Jena, Dr. Guiseppe Vario, of Berlin, Dr. Barau, Physician to the Royal Family in Paris and others; these latter, being proposed at the especial request of Her Royal Highness the Princess of Brunswick, by Dr. Lettson, and seconded by Mr. Ridout and Dr. Chamberlaine. In the second year the Physico-Medical Society desires, and is permitted to unite with it. Shortly after (and mark this) we find a resolution "to form a collection of natural history, of anatomical preparations, as well as of other objects connected with medicine and surgery;" a library being in course of formation, the nucleus of that which adorns our walls, and of which we have reason to be proud.

We will now pay a visit to some of their meetings. At one we have a case of opisthotonos related, which was alleged to have been cured by bandaging; at another, cases of hydrophobia, which led to a Committee being formed for the purpose of investigating its causes and the most efficient remedy. At a third on "an epidemic disease now raging, characterized by ulceration and enlargement of the glands behind the ear." Then again we find an evening occupied by the subject of variolous contagion, and on the retention of activity by the virus. Experiments are made, and it is inferred that polluted clothes as well as the virus, if protected from the atmosphere, retain their power of communicating the disease for more than twelve months.

At other sittings we find them occupied in chemistry. At one Dr. Black has forwarded a communication on the subject of "fixable or fixed air," and his apparatus is shown for collecting and conveying it, and at another, shortly after, Dr. Henry calls attention to the same subject, when Mr. Parker narrates that he has administered some preparation of bark, saturated with



this gaseous product, with supposed good effect—he is not sure—in the form of enemata, in cases of suspected internal gangrene.

Pathology has a fair share of attention at almost every gathering. Amongst other specimens a diseased knee-joint is exhibited in which a substance was found, “supposed to be ossified coagulable lymph, and in touch and shape very much like a patella;” also some “urine loaded with black sediment from a boy three years old;” a specimen of vagino-vesical fistula, and a sphacelated omentum. Mr. Abernethy occupies an evening by discoursing on some diseased livers which he exhibits, whilst on the 21st October, 1793, some “conversation ensues on the cause of the death of the late John Hunter, Esq.” He had been dead a week.

Surgery is not without its witnesses. Cases of popliteal aneurism successfully treated by the ligature are not unfrequently reported. In physiology we find Dr. Haighton reading a dissertation on division of the recurrent nerves. One evening, again, we find them engaged in a philological argument concerning the word *σιδηρος*, and its true meaning in ancient medicine, it being contended that it meant *iron*.

Thus for a period all was vigour, but a little reaction appears soon to have followed, for it was ordered by a “bye-law” that each member in succession should give in a paper on some subject, or in default forfeit 5s., or a present of books equal to that sum.

It however quickly revived, and members of the Council were admonished of their duties, and that substitutes would be found for such as absented themselves, without sufficient excuse, for four successive meetings. Moreover, Honorary Corresponding Fellows, prior to admission, are required to publish a paper that would “do honour to the Society’s Memoirs.”

One other little incident, and I leave these records; but only, I trust, to some one who will undertake, with what of interest and love he only can feel for them who has, as I have done, dipped into their earliest annals, to trace with abler pen the further records of this remarkable Society.

Fothergill, who was not, as I can find, a Fellow of this Society, died in 1780 and in 1784 we find the amiable Lettsom



making this statement: "To preserve the memory of illustrious characters by some permanent memorial, is grateful to the friends of the deceased, and excites in the living that commendable emulation which leads to great and virtuous action. Such were those that will render dear to distant posterity the name of Dr. John Fothergill, in memorial of whom I have ordered a gold medal to be struck under the patronage and at the disposal of the Medical Society of London." Fothergill is said to have given away £200,000 in benefactions. He was not buried with state honours, but the medal of this loving, far-seeing friend, which it is our honour and privilege annually to bestow, is more in harmony with the tenor of his life, and will, we trust, better serve to perpetuate his memory, and render it "dear to distant posterity."

From these few collected facts relating to the origin of our Society, we gather the object of its founders, and the means by which, in their estimation, that object could best be advanced. We learn that it was instituted for the promotion of medical information, that its aims were essentially practical, and that it pursued them with earnestness, and in an eminently philosophic spirit.

I believe that the Society holds its course because it is still in large manner animated by like aims and endeavours. It still regards the science of medicine as one and *indivisible*; and seeks to promote its usefulness through the discovery and establishment of truths or principles upon the basis of facts interpreted and rendered clear by the light of kindred sciences.

Practical subjects form the themes of its weekly discussions, and these discussions are conducted in the most catholic spirit, and with the advantages that practical experience and skill in debate can impart to them. Stores of information acquired from collateral sources are moreover brought to bear upon and to elucidate the various points of controversy; and few can say of those who have been present at our Meetings, that they have gone away without having had their views corrected or confirmed; or without having been informed upon the subject that has engaged attention.

But, Gentlemen, there is a movement now going on—a loud rumbling, and external sign of internal commotion—which, well



considered, can scarcely be regarded in any other light than as indicative of some general but vague sense of impatience at the gross product of the doing of our Societies in their present state of individual isolation. It is proposed that several of them should be joined together into one grand assemblage or confederacy under an imposing title. No manner of complaint can be made against such a scheme, especially if it is intended and hoped that thereby the Societies thus confederated may become more fruitful than they have already been. In it the Medical Society has not been included; perhaps for one or two reasons—either that it has nothing to gain, or that the confederation can gain nothing by its admission into it. At all events, here it is, “out in the cold,” and not destined to be a “section” of the intended “Royal Academy of Medicine.” It will then hold the place in relation to the new society of a *rival*; and with every good and proper wish that it may do abundantly more in the new and joint form than the several societies did in their separate conditions for the benefit of our common cause, let us, the Fellows of the Medical Society, resolve, if possible, to make corresponding progress in all that the Royal Academy of Medicine proposes, and show that, without imitating it in the character of its constitution, we can imitate it both in the will and the power to promote, far beyond what it has hitherto done in this direction, the same great purposes in relation to the work in which both are engaged.

It may be asked: How is this to be done? Gentlemen, bear with me if I make so bold as to offer a few suggestions on the profitable cultivation of our opportunities, both individually and collectively, of advancing Medical Science.

And I fall back again upon the little historical survey I have taken of our Society to aid me in carrying out this otherwise arrogant proposal.

Amongst the methods which it employed, and amongst the foremost, was that of Clinical Observation. Clinical records bear obviously to our science the same relation that the foundation bears to the building, and they require, as the elements of worth and durability, no other attribute but fidelity to that which they are designed to portray. Deprived of this characteristic, they hinder rather than promote their main



subject, and if there is one thing more than another to which their too habitual fallacy is due, it is to attempts made to give to their associate phenomena a forced conformity towards some special and favoured end, rather than depict them in the simple guise of their native truthfulness.

We are too little sceptical of these records, and often trust them when they too obviously bear the impress of being transcripts of the observer's plan, and not that of nature. The way in which the Society registered its facts does not appear in its minutes, but from contemporary records there is every reason to believe that its Fellows had not lost sight of the didactic remarks of the "Father of Medicine" on this point; and I may be borne with if, on this occasion, I recall them to your minds.

"In writing the history of a disease," says Sydenham, "every philosophical hypothesis whatsoever that has previously occupied the mind of the author, should be in abeyance. This being done, the clear and natural phenomena of the disease should be noted, *these* and these only. They should be noted accurately, and in all their minuteness, in imitation of the exquisite industry of those painters who represent in their portraits the smallest moles and the faintest spots, and writers whose minds have taken a false colour under the influence of physiological hypotheses, have saddled diseases with phenomena which existed in their own brains only, but which would have been clear and visible to the whole world, had the assumed hypothesis been true; add to this, if by chance some symptoms really coincide with their hypothesis, and occur in the disease whereof they would describe the character, they magnify it beyond all measure and moderation; they make it all and in all; the molehill becomes a mountain; whilst, if it fail totally with the said hypothesis, they pass it over either in total silence, or with only an incidental mention. "Then, pursuing the subject, says this great man, "in describing any disease it is necessary to enumerate the peculiar and constant phenomena, apart from the accidental and adventitious ones. The practical value of such a history is above all calculation. By the side thereof the subtle discussions and the minute refinements wherewith the books of our new school are stuffed



full, even *ad nauseam*, are of no account. As truly as a physician may collect points of diagnosis from the minutest circumstances of the disease, so truly may he also select indications in the way of therapeutics. By this ladder and by this scaffold did Hippocrates ascend his lofty sphere, the Romulus of medicine, whose heaven was the empyrean of his art, when he taught that our natures are the physicians of our diseases, when he recommended ‘bellows for the colic, and nothing for the cancer.’” Such precepts, and in language so trenchant, are too precious to be allowed to be smothered in dust. They form the only guide for clinical observation that can be of any real service in the search after truth; and if they be but followed with regard to the cases that are presented at our Meetings, a collection might in due time be made of unspeakable meaning and worth.

Of Anatomy, as another of the methods by which the forefathers of our Society sought to advance its object, I trust I may be borne with if I hazard the surmise whether its cultivation, as subsidiary or directly accessory to the ends of clinical observation, has been followed up in later times in a manner and to a degree commensurate either with the greater interest and importance, or with the more absolute certainty of reward, that such a bias would give to it.

It is thus that John Hilton has solved some of the problems of what were supposed to be, “erratic pains,”—pains remote from the seat of their associated disease; and it is thus, that all subjective indications of morbid processes must be interpreted. “It is not uncommon,” says this excellent surgeon, “in cases of uterine and ovarian irritations for the patients to complain of pain in the loins, but particularly over the posterior part of the sacrum. The ovarian and uterine nerves traverse the ganglia of the sympathetic, and so reach the spinal nerves. Hence, the morbid influence conveyed by the posterior branches of the spinal nerves to the skin over the lumbar and sacral regions explain the lumbar and sacral pains experienced by such patients.” Thus, too, has Mr. Hilton been able to explain many of the æsthetic phenomena of joint disease by the axiom “that the same trunks of nerves, the branches of which supply the groups of muscles moving any joint, furnish also a distribution of



erves to the skin over the same muscles and their insertion, and that the interior of the joint receives its nerves from the same source\* ;” one of the most beautiful and important generalizations of modern times ; it is thus also that Jonathan Hutchinson proved demonstrably the association of herpes with certain nerve tracks, on which I cannot further dwell. There can be no evasion of the dogma that every subjective phenomenon must have its solution in some disturbances occurring coincidentally in a fixed and determined material agent. And yet how far short are we of anatomical clues to even some of the most ordinary, yet striking facts of clinical observation ? Take, for instance, the seat of any set of convulsive movements in relation to the precise injury or irritation of which they are the reflex results. Certainly, anatomy, if pursued more habitually in the spirit of a Dunn, a Lockhart Clarke, or a Hughlings Jackson, and by other labourers in this department of medical science, would give a valid account of such like phenomena. We have, *in our dealing with clinical facts* been, I fear, too sparing of that enterprise and labour which are necessary in order to track their phenomena home. The labour is great, doubtless very great, and time, to very many of those who frequent our Society, too scarce for such pursuits generally ; but occasions may occur when both are at our disposal ; and both, if so employed, will be abundantly repaid in the discovery of hidden treasure.

In further illustration, I would ask upon what anatomical or anatomico-physiological data rests the explanation of the phenomena incidental to the course of any given diseased process, such, for instance as that in the case of a gangrenous limb, or of a fœcal abscess ? No enquiries can be of greater interest or moment. Suppose a case of perforation of the vermiform process, and evacuation of the contents through the abdominal walls, how is this occasional contingency to be explained ? Why does the skin take on that action by which an *unnatural* passage is formed for their safe conveyance to their *natural* destination — the exterior of the body ? It might be said that it is simply due to the law of catalytic

\* “ Lectures on the Influence of Anatomical and Physiological Rest.”



action; the communication of its gangrenous or suppurative action to contiguous structures. But if we look a little closer we shall see that the explanation does not "hold water;" for whilst contiguous parts in one direction are undergoing a destructive process, those equally contiguous in another are taking on an entirely different action, viz., that of repair, and the formation of new textures by which the peritoneal cavity is protected from fatal effusion into it. But, besides, in the case of a hernia in which a knuckle of intestine shall perish enclosed in a double sac—an *omental*, within the usual *peritoneal*,—the skin shall take on erysipelatous, suppurative or gangrenous action in sympathy with the encased bowel, whilst the omentum which intervenes between it and the bowel shall be unaffected.

Surely there is something besides extension of disease by continuity wherewith to account for consentaneous action in structures physiologically and anatomically so remote from each other as a knuckle of ileum and the skin of the groin. What is it? Cannot anatomy, with the aid of its sister science unfold the interesting mystery? Bearing upon this subject, Mr. Hilton says that, on the principle of nerve distribution to which I have already alluded, "the muscular apparatus of the abdomen, its serous membrane; the skin over the muscles and the intestines themselves are thus brought into harmonious association," so that by the knowledge of the distribution of a single nerve-twig on the skin, it may be possible to determine with accuracy the precise portion of the intestinal tract in which the cause of the irritation exists. What power would such knowledge gain for us?

What, again, is the anatomico-physiological law by which in the event of an extremity becoming gangrenous, the death of the skin falls precisely so far short of that of the bone, as to provide for the latter after the separation an abundant flap and ultimately, in general, a good stump?

Again, adverting to pathology, a science which the forefathers of this Society cultivated, so far as they were able to carry it without the aid of micrology and organic chemistry. I would ask whether by its isolated study it can be made to render its capable quota of material help in the solution of those difficulties



which beset the scientific practitioner at every turn he takes in his daily rounds? The Pathological Society is perfecting our knowledge of morbid changes and textures, as far as these can be perfected by the investigation of histological or structural lesions, and its Transactions present an almost exhaustive account of them. But it remains for this and like societies to gather up its "chips," and to give to them that practical application which was so eminently made of pathological truths by that far seeing physician and devoted philanthropist, Dr. Hodgkin. I turn to his "Serous and Mucous Membranes," and see there not only a model of research, but of practical inference, on which account it must yet form one of the staple resources of modern medicine and surgery. Still there are labourers in the right direction, as, for instance (and I could name many more, if time admitted), Callender and Dickinson, the former in showing the connection of certain forms of convulsive action, after injury to the skull and its contents, with brain lesion, *along the track of the large arteries*, and the latter of that of diabetes with morbid change in similar brain tracks. And their examples remain for more general imitation.

And now, Gentlemen, I come to speak, and lastly, of another most important science, ancillary to the progress of medicine, of which, too, the originators of the Medical Society availed themselves to the extent of its resources, such as they were, at the end of the last century. I allude to chemistry, organic and inorganic, quantitative and qualitative.

The objects of medical science must fall very short of their full attainment, until it has the full complement of exposition that chemistry can give it; and it might be said with truth that that aid is boundless. Comparatively in its infancy this science has already discovered its prowess by refuting, or very materially helping to refute, one of the most formidable of the dogmas by which the progress of medical science has been hindered. I mean the theory of *Life*, or "the *Vital Principle*." Owen Liebig in 1851, and Gregory in 1857, talked of "the properties and composition of organized products, or of substances which have been formed in vegetables and animals *under the influence of life*, which meant *that the simplest of*



*organic compounds could not be produced by elemental synthesis.* In 1828 Wöhler produced urea from cyanide of ammonia; in 1831 Pelouze evolved formic from hydrocyanic acid; and in 1845 Kolbe produced acetic acid from carbon by a series of strictly inorganic reactions. And from these beginnings, this science has been enriched by the building up of hundreds of organic principles from their constituent elements, *without the intervention of any so-called vital principle.* "There is now no reason," says Dr. Odling, from whose valuable lectures my information is derived, "to doubt the capability of producing all organic principles whatever in a similar manner." What may we not gain in results analogous to these and others, of which I will supply a few well-known instances by way of illustration? Take that of amyloid as found in the human body. From its conduct in answer to certain reagents, it was at first supposed to be a low product of tissue degradation in the form of a hydro-carbon. Dr. Dickinson has shown that this is not the case, but that it is nothing more than de-alkalized fibrin, from which the missing quota of alkali has been separated by a process of long continued suppuration.

Take the following still more striking instance of the vast importance of chemical research.

The volume of oxygen contained in blood which has passed through a contracting muscle is ascertained to be less than one-fourth of that contained in blood which has traversed the same muscle at rest, while there is a corresponding increase, not of course an equal increase, in the volume of its carbonic acid. The *theoretical* result of the complete oxidation of muscle is the appearance of  $\frac{1}{8}$  of its carbon in the form of urea, and of  $\frac{7}{8}$  of its carbon in that of carbonic acid. The truth of this calculation was practically proved by a series of experiments made by Bischof, Voigt, and Pettenkofer in which they shewed that dogs fed exclusively on flesh diet, excreted carbon or carbonic acid to carbon in urea, in the ration of 7 to 1, the difference being simply that of .07 only, and that in favour of the *practical* result,—“a striking mutual corroboration of the two methods of calculation and research.”

The discovery of leucine as a product of the waste and metamorphosis of glandular tissue; of taurine more particularly



of the tissue of the lung, and more especially of the bile in conjunction with cholic acid; and the artificial formation of these highly complex organic bodies, taken with numerous other like instances that I might cite, sufficiently show the enormous importance of organic chemistry in its bearing upon medical science.

I should be wanting in what is due to one of the most earnest amongst the Fellows of our Society, Dr. Richardson, if I did not here make a passing allusion to the benefits science has derived from his well known researches. His detection of the special alkaloid, septin, in pyæmia, and his approximate demonstration of the catalytic action of animal poisons must alone rank him amongst the discoverers of our day.

I may add (in Dr. Odling's words) that it necessarily follows that, while perversions of nutrition, perversions of metamorphosis, and the modifying influence of remedies, are many-sided subjects, which may be viewed from many different aspects, he must have but a very imperfect and one-sided view of these subjects, who leaves their chemical aspect out of his consideration.

Gentlemen, I have done. I have hinted hopefully, without the idea of being either dogmatical or censorious, at the means by which in my humble opinion our Society, consisting as it does of men gifted with philosophical minds, imbued by earnest desires after truth, and sincerely endeavouring to render medical science worthy of an age in which other sciences have made immeasurable strides, can render it a formidable rival to any other institution of like character. Every one of us can contribute something to our stores of knowledge, viz., a *fact*,—and *facts* are too precious that one should ever be permitted to escape or perish. If without perceptible use now, their use will be clear hereafter; for even yet a master-mind *will* appear on the world's stage, which will discern and gather together all such facts or truths wherever they may be, and, arranging them like the separate blocks of an elaborate mosaic, reconciling their seeming incongruities, and finding for each its fitting place in the scheme, will, out of elements apparently discordant and incongruous, evolve order, unity, design.

To conclude, can I more forcibly, more eloquently speak to you



than in words that were spoken by one whose voice, on the other side of the Atlantic, was being hushed about the time our Society was coming into existence? Benjamin Rush is the man, and these, the words in his "Eulogy on Cullen," I would leave with you.

"Let no new *fact* in medicine, however insignificant it may appear, be allowed to pass unnoticed, for there are mites in science as well as in charity, and the ultimate results of each are often alike important and beneficial. Facts are the *morality* of medicine; they are the same in all ages, and throughout all time."



