

James Seaton Reid (1811–96)

President of the Belfast Clinical and Pathological Society

1859–60

President of the Ulster Medical Society

1867–68

Presidential Opening Address
Belfast Clinical and Pathological Society
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GENTLEMEN,—Since the establishment of the Clinical and Pathological Society of Belfast, it has been the custom for the President to deliver an inaugural address at the commencement of each session. It, therefore, now devolves upon me to place before you a few observations of an introductory character.

I have, in the first place, however, to return my most sincere and grateful acknowledgments to the members of this Society, for the very high honour which they have spontaneously conferred upon me by electing me their President.

This Society was established for the high and noble purpose of advancing medical and surgical science in their practical departments, in the hope of rendering them more efficient for the removal or relief of disease. To preside over the deliberations of gentlemen engaged in so important and vital an object requires such varied accomplishments that I would have been disposed to recoil from the office, had I not been certain of the assistance and support of those who had acted so efficiently as my predecessors, and did I not rely on a continuance of that courtesy towards each other which has hitherto characterised the members of this Society, even when challenging the correctness of each other's views.

The subject matter of an address like the present necessarily varies with the person who holds the office of President. The special branch of practice to which he is devoted, the direction of his reading, and the nature of the questions that at the time agitate the public mind, naturally exercise an influence over the subject he may select for the consideration of his hearers. My professional career having been that of a physician, I have naturally selected for my theme, a subject connected with practical medicine. I have just stated that this Society originated in a desire to contribute to the advancement of medical science; but it is, doubtless, known to you all, that whilst we have claimed for medicine a place amongst the progressive sciences, the validity of our claim has been denied, and it has been asserted, that no progress has been made by it for centuries past. For example, when the late Sir William Hamilton, of the Edinburgh University, reviewed, a few years ago, "Dr. Thompson's Life of Dr. Cullen," he did not



hesitate, after calumniating the members of our profession, to ask, in the most disparaging manner—"Has the practice of medicine made a single step since the days of Hippocrates?"¹

Believing that he and others have acted most unjustly, in denying that our knowledge has increased, I shall, in the following remarks, endeavour to show that, even within the last half-century, a large amount of progress has been made, and that no little amount of benefit has been conferred on mankind by the results.

You are aware that medical science may be defined to be an aggregate of the knowledge we derive from the study of anatomy, physiology, pathology, chemistry, *materia medica*, and the practice of medicine and surgery. But, it is evident, that were I to go into details respecting the contributions made by each of these, I would far exceed the limits of an address like the present. I must, therefore, endeavour to find some department in which the contributions made by each would appear to be concentrated, and, by a brief and impartial examination of it, endeavour to vindicate our

¹ Discussions on Philosophy and Literature. By Sir William Hamilton, Bart. 1852. P. 253.

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profession against the charges which have been so inconsiderately brought against it.

Now, I believe that you will agree with me in stating that, as the chief object of medical science is the removal of disease, each case presents to the physician two grand problems to be solved. First, to discover its nature; and, secondly, to devise its cure; so that all the benefits resulting from a study of the various branches I have named must be found centred in diagnosis and therapeutics, and are ultimately valuable to us in proportion as they facilitate the recognition and treatment of diseases. That various maladies attack the human body must be admitted by the most superficial and illiterate observer. The records of medicine, in their most imperfect state, recognise this as a fact, and it is employed as the basis of every treatise on medical practice. Diagnosis, or the power of distinguishing these diseases from one another, lies at the very foundation of our art; and just in proportion to the perfection and accuracy of our diagnosis, and our power of discrimination, will be the certainty of our therapeutics, and the attainment of the grand object for which our profession was instituted. Now, if it can be shown that medical science has made progress in the acquisition of knowledge in these two departments, even within so limited a period as the last half century, I conceive it will go far to vindicate our profession against the disparaging charge that has been brought against it.

In attempting the fulfilment of such a task, it is desirable to follow some method or arrangement, and I am not aware that I can suggest a better one than to take as a basis the usual anatomical divisions of the organs of the body, and endeavour to ascertain what improvements have been made in the diagnosis and treatment of their respective diseases. By this plan, the diseases of the nervous system; next those of the respiratory and circulating systems; then those of the digestive and eliminative organs, will successively be examined.

I shall commence with an examination of the nervous system, rather out of deference to the important place which it holds in the animal economy, than because it is the department in which the greatest progress has been made. That this has not resulted from any want of zeal on the part of our profession, but from the existence of circumstances beyond their control, may be shown by a brief mention of some obstacles that, so far, appear insurmountable. Chief among these may be mentioned the enclosure of both brain and spinal cord in cases of bone, which remove them beyond the reach of any direct examination of their condition, and thus compel the physician to rely almost exclusively upon derangement of their functions as indications of

the presence of disease. But our experience of thoracic disease has taught us how little dependence can be placed on derangement of function alone, and what innumerable mistakes we should commit had auscultation not enabled us to test the correctness of its indications. I need but mention, as examples, that the greatest dyspnœa, the most agonising pain, and the most hurried breathing, may be dependent on either functional or organic disease. Again, if distrusting functional derangements, we are disposed to rely upon the statements of the patient, we know that, in many instances, only a very small amount of disease shall have taken place on the surface of the brain, till the mind becomes so confused that no reliance can be placed on the descriptions of the unhappy sufferers. A third obstacle exists in the peculiar structure of the nervous tissue itself. You are aware that this is composed of two materials, called respectively the grey and the white, and that anatomists and physiologists, in their most recent investigations, have endowed each of these with peculiar powers. But they find these structures so intimately blended together that they have difficulty in deciding the boundaries of each; so that, when the pathologist, after a careful observation of symptoms during life, attempts to explain them by organic changes found after death, he is much embarrassed by this structural intermixture. Although an attempt has been made to overcome the first of these obstacles, by the application of auscultation to the brain, yet it has hitherto been barren in results, and I fear that we must look upon them all as belonging to a class that human skill will never be able to remove.

It was necessary to mention the existence of such impediments, in order to protect our profession against a charge of being deficient in zeal; and to account for the want of that precision and accuracy in the diagnosis of diseases of the nervous system which has been acquired regarding diseases in other departments. Still, the investigations and observations carried on during the last half-century have not been entirely without fruit; and we are enabled to point to several discoveries of the greatest scientific importance, which have rendered our diagnosis more accurate, and extended our knowledge in various directions.

In the first place, we have acquired the power of distinguishing from one another several diseases of the brain that were formerly confounded together. By an application of the law which connects symptoms with lesions, and which led to a closer study and record of the former; and by a subsequent comparison of them with the records of dissections, it was found that diseases very dissimilar in their nature and seat, although similar in their more prominent features, had hitherto been confounded under the same name. For example, there

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can now be little doubt that, under the name of phrenitis and brain fever, several diseases were described and treated that were in their nature totally distinct, while there were also united under the name of inflammation of the brain, several others, which are now well known to be distinct, both in their seat and in their results.

When inflammation is confined, as is occasionally the case, either to the substance of the brain or to the membranes covering it, we are enabled not unfrequently to tell which is involved; and, when the membranes are the seat of it, to decide whether it be those covering the base or the surface that are diseased—a precision in diagnosis which was assuredly unknown to our immediate predecessors. In the diagnosis of these inflammatory affections we have learned the great reliance that may be placed on our opinion, when either persistent vomiting or sighing respiration, or both, may be present. Whilst our forefathers in medicine would have ascribed the first of these to deranged stomach or biliaryness, we have been taught the fearful significance that it gives, in either old or young, to apparently trivial cerebral symptoms; and, if sighing respiration be a less obtrusive symptom, experience has taught us all how to interpret its association with cerebral indications, although these may appear to be of little importance. So indicative of serious brain disease are these two symptoms, that their absence justifies us in holding out hopes of a favourable result to our treatment of others in the same region, which their presence would debar us from entertaining. One of these diagnostic symptoms we have seen manifested by a derangement of the digestive functions, the other through the respiratory system; but there is a third, of equal significance, indicated by the organs of circulation, though of rather less value, because it requires the disease to have reached its last, if not hopeless, stage, before it is fully developed. I allude to the varying frequency of the pulse, first mentioned by Dr. Whytt. Repeated observations have confirmed the accuracy of his remark, that in inflammatory affections of the brain, the pulse is first frequent, then becomes unusually slow, and again resumes still greater frequency towards the termination of life.

Now, it is not without interest to remark, as a corroborative proof of the difficulties connected with an investigation of the diseases of the brain, that the three chief symptoms which modern research has proved to be the most indicative of inflammation of that organ are learned through a derangement of the digestive, the respiratory, and the circulating systems, rather than from a direct interrogation of the brain itself. I may here state a fact that might be of use on some occasion to some of the junior members of our Society, as I have not observed the point noticed by any authors. Before death

takes place from inflammation of the brain in children, there appears occasionally a dusky rash over some parts of the body, which has led the attendant to suppose the child was dying from undeveloped scarlatina. I have known this opinion to have been held with such pertinacity, that whilst the symptoms had been persistent vomiting, constipation, screaming, coma, squinting, convulsions, and hemiplegia, extended over ten or twelve days, yet, in opposition to the opinions of two others, death was asserted to have been caused by suppressed scarlatina, and no other certificate would be given. The more correct diagnosis of these inflammatory affections of the brain has caused the term hydrocephalus to be used much less frequently; as it is now known that the coma, the dilated pupil, and squinting, which were formerly believed to indicate effusion of water in the brain, may be the accompaniments of a mere inflammatory opacity or thickening—effusion of fluid being rather the exception than the rule.

Again, paralysis was formerly described and treated of as a distinct disease, and in almost every instance subjected to the same treatment; whereas now it has been proved to be only a symptom, common to various structural lesions of the nervous centres, such as rupture, inflammation, softening, pressure, &c.; each of which requires a variation in our remedies. And with regard to that form of paralysis that appears occasionally in the insane, it was in consequence of the accurate observations of physicians who practised little more than thirty years ago, that we have been taught to predict an invariably fatal result from the association of the slightest amount of unsteadiness or slowness of articulation with the very mildest form even of mental aberration; repeated observations having proved it to be a law, that the slightest delay in the formation of successive syllables or words by the insane is the certain forerunner of that general paralysis in them which invariably terminates life within two or three years. No remedial measure has hitherto been found to ward off the issue, though lowering treatment has been followed by most injurious results. Now, it is extraordinary that not a trace of a description of this peculiar kind of paralysis, is to be found in the writings of any physician prior to the year 1822; though it possessed such peculiar characteristics as to be confined almost exclusively to males, to be most frequently associated with that form of insanity in which the patient is always hopeful, the world prospering with him in every respect, his power of motion and his health, in his own opinion, always improving, though he can scarce move or speak. Such patients, also, almost invariably become fat, the very opposite result of the presence of other forms of

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insanity; yet, with such peculiarities, its natural history was only discovered about the date I have just mentioned.

Within the last few years a peculiar inflammatory affection has been discovered, attacking the base of the brain and superior part of the spinal cord, to which the name of cerebro-spinal meningitis has been given. This, although an acute inflammation, appears to prevail at times as an epidemic, and did so some years ago in the Belfast Workhouse. It most frequently attacks boys, or young men recently subjected to the vicissitudes of a military life.

The foregoing statements have indicated the progress of medical science, by showing that we have acquired much greater facility in the interpretation of symptoms; so that we are enabled, not only to distinguish more accurately diseases of the brain from each other, but also to assert with greater confidence the existence of particular diseases from the presence of certain symptoms, though these latter may not appear to be directly connected with the brain.

I have now to adduce proofs of progress of a somewhat opposite character, by showing that certain symptoms, which at the commencement of the present century were looked upon as infallible evidences of serious, if not fatal, disease of the brain, are now to be interpreted in a very different way. We are indebted for this discovery to our celebrated English physiologist and physician, the late Dr. Marshall Hall. At the period I have mentioned, all diseases were ascribed to inflammation, and it was to the discovery and treatment of it that every physician directed his attention. Pain was known to be one of the most certain indications of its presence in inflammation of the bowels and other localities; and when it was complained of in the head, it was at once held to be indicative of inflammation of the brain, which required the most active blood-letting for its removal. Dr. Hall's great powers of observation soon told him that pain was by no means a certain indication of inflammation of the brain; and that it was almost invariably present when that organ was deficient in blood, rather than overcharged. All who have read his invaluable essay on bloodletting, will recollect his instancing case after case, in which severe pain in the head was but temporarily mitigated by bleeding; but at once relieved by nourishment—brandy and ammonia. To the same illustrious physician are we indebted for another discovery of a similar nature, as he was the first to point out that a group of symptoms in children, such as insensibility, squinting, and convulsions, which had hitherto been looked upon as certain indications of hydrocephalus, or inflammation of the brain, and requiring the most decided lowering treatment, were in

reality the result of exhaustion; and were most certainly removed by brandy nourishment and ammonia. Dr. Watson, of London, has truly remarked that one of the most trustworthy diagnostic symptoms of this peculiar condition of the brain in infants, consists in depression of the anterior fontanelle, the reverse of what occurs when the brain is inflamed. When we recollect the saving of life that has resulted from the discovery of the two foregoing facts, we must admit, that apart from his discovery of the "reflex function," Dr. Hall was entitled to be enrolled amongst the most successful benefactors of his race. Few discoveries of modern times are of greater importance than that which has taught us that exhaustion and irritation may originate a group of symptoms in both brain and intestinal diseases having a great resemblance to inflammation, but which would be aggravated and perpetuated by a lowering treatment, and almost immediately relieved by the reverse. Intimately connected with the brain, are to be found the spinal cord, and certain cerebral nerves; each liable to serious diseases, which, if not so destructive to life as those we have been alluding to, are still of such importance as to cause us to inquire what progress has been made in their diagnosis and treatment.

In connexion with the discoveries in this portion of the nervous system, we may well be proud that Great Britain and Ireland have furnished such experimental physiologists and practical physicians as Sir Charles Bell, Dr. Marshall Hall, and Dr. Bentley Todd. Sir Charles Bell's discovery, in 1811, that the anterior and posterior roots of the spinal nerves performed different functions, enabled an explanation to be given why disease in one part of the cord caused a loss of power, and in another a loss of sensation; and, although the recent investigations of Brown Sequard have shown that he had not succeeded in unravelling all the mysteries connected with sensation and motion, still the accuracy of his original discovery remains almost intact. By Sir Charles's discoveries, also, respecting certain cerebral nerves, we are enabled to explain why, in disease or injury of the seventh pair of nerves, certain superficial muscles of the face are paralysed, and others escape uninjured; and, again, when the anterior root of the fifth is involved, how it happens that the temporal and masseter muscles have lost power, whilst others do not suffer. Two kinds of facial paralysis are met with; one is of trivial importance, almost invariably amenable to treatment, and needs cause little anxiety to the patient; the other is of most serious import, generally dependent on disease of the brain, and too often uninfluenced by treatment. Now, you well know that we are indebted to the discoveries of Sir Charles Bell and Dr. Bentley Todd for our capability of distinguishing between them; in the one case warranting

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words of comfort and assurance to the patient; in the other, demanding those of a less hopeful character. Sir Charles's investigations have explained that when the eyelids are incapable of being closed in facial paralysis the disease soon yields to proper treatment, and a permanent recovery results. Indeed, there are few of us who have not found the value of this knowledge, and the relief from anxiety it enabled us to administer to our patients, whose cheeks had become suddenly paralysed. Whilst, on the other hand, by the investigations of Dr. Bentley Todd, we have been taught that the power of closing the eyelids, in a case of facial paralysis, is an absolute proof that the affection is of a more serious character, and depending on disease of the brain itself.

Again, the discovery by Marshall Hall of the property of "reflex action," and which has immortalised his name in the science of physiology, has furnished us with unerring means of ascertaining whether the cause of the paralysis of the limbs of our patient is due to disease of the brain, or seated lower down in the cord, thus indicating not only the locality to which our remedies should be applied, but furnishing us with the means of deciding on the propriety of using that most powerful remedy, strychnine, which is beneficial when the spinal marrow is the cause of the paralysis, but hurtful when the brain is diseased. Although this knowledge had been acquired within the last quarter of a century, yet some recent investigations of Professor Van Der Kolk have extended our knowledge of the reflex function, by demonstrating that the posterior roots of the spinal nerves divide in the spinal cord into two parts, one of which passes directly up to the brain, and is the channel of sensation; whilst the other penetrates through the white masses of the cord into the grey substance, and becomes the channel through which the phenomena of the reflex action are excited. I might add to the foregoing other examples of improvement in our diagnosis of other diseases of the nervous system, but I have limited myself to a notice of the most important conquests that have been achieved; conquests which have been acknowledged by the most enlightened practitioners in every country, and by them admitted to have contributed to the preservation of human life.

Such, gentlemen, is the reply that an examination of even one portion of the diseases of the human body enables us to present to the detractors from our professional renown. And when we recollect that some of the most important of those discoveries were made by Sir Charles Bell in Edinburgh; that they had procured for him so world-wide a reputation, that no disease of the nervous system could be mentioned without his discoveries being noticed; that he was the co-professor of Sir William Hamilton in the University of Edinburgh;

and that Scotchmen are generally not insensible to the claims of their countrymen, we are at a loss to account for the utterance by Sir William of such a calumny on our profession as "that medicine in the hands by which it is vulgarly dispensed is a curse to humanity rather than a blessing,"¹ or for his addressing to us the question, "Has the practice of medicine made a single step since the days of Hippocrates?" When language like this is published by a writer of such unquestionable attainments in philosophy, and attempted to be justified by quoting a statement of the blacksmith Priesnitz, of water cure celebrity, surely we must accuse him of having shown a most unpardonable ignorance respecting the history and progress of medical science, or conclude that his mind had become warped by a most unjustifiable prejudice against it. But, I must remember that Sir William is no more, and that-

"De mortuis nil nisi bonum."

The plan which I had laid down for my inquiry into the progress of medical science, requires me next to ascertain what improvements have taken place in the recognition and treatment of diseases in the organs of respiration and circulation. I am certain that you will agree with me in stating that it is here that the practice of medicine has achieved its greatest triumphs, and that we are enabled to enumerate discoveries in diagnosis and therapeutics that half-a-century ago would not have been deemed possible by the most enthusiastic member of our profession. It is almost superfluous to state that these have resulted from the application of auscultation and percussion in the investigations of all diseases of the lungs and heart. Auscultation in medicine, you are all aware, is the art of listening to the different sounds produced in the living body; and, as a method of diagnosis, it has for its object to determine the condition of an organ in which the natural sounds are altered. Its application to the study of diseases of the respiratory and circulating organs proved it capable of rendering the diagnosis of nearly every disease of the lungs, of the pleura, and of the heart more certain, and more minutely accurate, than perhaps even those diagnoses established by means of the sound, the probe, or the finger. For the discovery of this valuable and useful art we are wholly indebted to the immortal Laennec, and at a date so recent as 1816. Not only did he lay the foundation of our knowledge respecting it, but, by his indefatigable industry and ardent zeal, he brought it very nearly to that degree of perfection which it has now attained, and which renders it one of the most efficient means ever devised by the skill of man for the elucidation of pulmonary and cardiac affections. The stethoscope

¹ Discussions on Philosophy, &c. P. 252.

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enables the physician of the present day, as it were, to see through the body of the patient, and to announce, in the great majority of instances, what alterations of structure exist at the point which is subjected to his examination. No intelligent practitioner can now refuse to acknowledge that the discovery of auscultation, by this eminent Parisian, forms one of the most memorable eras in the history of medicine; nor will its practical utility be denied by any one who has qualified himself to estimate its value. Whilst we have claimed for our countrymen, Sir Charles Bell, Dr. Marshall Hall, and Dr. Todd, some of the most valuable discoveries in connexion with the nervous system, we must, in candour, acknowledge that the entire merit of the discovery of auscultation is due to the illustrious Frenchman, although, as an art, it has been greatly extended and more accurately applied by Drs. Stokes, Williams, Walshe, Corrigan, and Hope. It has rarely happened, however, that there has been an instance of a discovery of equal importance in which so little was left by the discoverer to be performed by others; and we, who have benefited so much by his genius, cannot but rejoice that, as an exception to the general rule, the gratification was enjoyed by Laennec of witnessing the acknowledgment of the value of his discovery, and its adoption by the most intelligent of his countrymen and contemporaries.

Exactly a century ago an Austrian physician had announced the discovery of a new means of detecting the diseases of the lungs and the heart, to which he gave the name of percussion. This discovery attracted little attention, and had fallen into oblivion till about the year 1808, when Auenbrugger's treatise was translated into the French language by Corvisart. The value of percussion was soon tested, more extensive applications of it proposed, and, under the distinguished Pierry, of Paris, it has been brought to a high degree of perfection as a means of diagnosis. He, however, appears to place too exclusive reliance on this method, and professes to obtain results with his pleximeter which others of equal ability and honesty are quite unable to confirm. Still it must, in candour, be admitted that many who have accompanied him in his visits to his hospital patients have been astonished at the accuracy of his diagnosis. The most ignorant vender of whiskey or beer knows how to estimate the gradual falling of the liquor in a cask, by the different sounds elicited on striking it above and below the level of the liquid. In like manner, every part of the human body, when struck, emits a certain sound, and always the same sound under the same circumstances, and, therefore, when found altered by disease, it becomes a valuable symptom. Ordinary percussion is chiefly used to ascertain the degrees of intensity of

sound, or, in other words, the degrees of sonorousness or clearness, and their opposites—dulness or flatness. It, however, reveals only one symptom, and but one element of diagnosis; although that symptom is often of paramount importance, yet it rarely, if ever, is of itself sufficient for determining the nature of the disease. If, for example, percussion discovers dulness at the base of a lung, other means must be employed to discover its cause. In such a case, it merely indicates that a comparatively dense body occupies the place which in health is occupied by a substance of lesser density. If we wish to know more, auscultation and the general symptoms must determine what the nature of that body is, and how it affects the general system. When auscultation and percussion are thus combined, they become invaluable in diagnosis; in fact, they are essential to the successful practice of medicine, nor can either be relied on to the exclusion of the other. Their mutual dependence is so well known to you all that I need not mention many examples. But, having given one illustration of the insufficiency of percussion without the aid of auscultation, I may, in justice to Auenbrugger, give one where percussion is as necessary in aid of auscultation. Certain circumstances cause the stethoscope to be applied over the right lung, but no sound whatever of respiration can be heard. Is the lung solidified, or is the pleura full of fluid? Auscultation cannot furnish a reply, because no respiratory sounds are heard, either healthy or morbid. The aid of percussion is sought to clear up the difficulty, and it finds perfect, or even unusual, clearness of sound; therefore, neither solidification nor effusion can exist. There must be some cause preventing the air passing into or out of the lung, and a reference to the patient's history may furnish good grounds for believing that a foreign body blocks up a bronchial tube, thus rendering the passage of the air through the lung impossible, and, consequently, stopping all sounds. This body may be a "wisdom tooth," as in the late Dr. Houston's patient, or a half-sovereign, as in the case of the celebrated engineer, the late Mr. Brunel. The idea of combining auscultation and percussion originated with Laennec, proving that he desired progress in medical science rather than fame for himself, by an exclusive advocacy of auscultation.

Percussion, I have said, had been proposed as a means of distinguishing diseases of the chest fully a century ago, but it attracted little notice, and had fallen into oblivion till Corvisart recalled attention to it in Paris in 1808, and it was little practised in England till 1824. Whilst, therefore, it cannot, like auscultation, be claimed as a discovery of the last half-century, still to the physicians of this period is due the merit of its application, and a more accurate and extensive

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appreciation of its value.

I make no apology for this allusion to the discovery and history of auscultation and percussion; because, in common with every practical physician, I witness daily the incalculable benefits they confer on mankind, and feel that medical science can most truthfully point to both, as discoveries of recent date, which exercise an unquestionable influence in the relief of human suffering and the preservation of life; in this way accomplishing the noble purpose for which our profession has been organised. And if any sceptic wishes to be convinced of the great progress that the practice of medicine has made since the introduction of these methods of investigation, it is only necessary to contrast the facility of discriminating the most frequent pulmonary affections at the present time with the difficulty which confessedly existed prior to the employment of those methods. If we turn to the works of Cullen, in praise of whom Sir William Hamilton could find no language sufficiently eulogistic, or to the more recent writings of Good or Thomas, we will find that these authors acknowledge the inability of the practitioner to distinguish, by means of symptoms, pneumonia, pleuritis, or bronchitis from each other. At the present time, by associating auscultation and percussion with other symptoms, it rarely happens that the discrimination cannot at once be made. And that this improvement is mainly due to these newly-discovered aids in diagnosis is shown by the fact that, to distinguish the affections referred to by symptoms alone, is still as difficult as it was to the physicians I have named. If any one ascribes our success to a more accurate interpretation of mere symptoms, it is sufficient to refer to the mistakes in diagnosis daily made by practitioners who rely exclusively on symptoms; mistakes which might be easily avoided by their practising auscultation and percussion. Bronchitis, pneumonia, and pleuritis, are not unfrequently latent, so far as distinctive symptoms are concerned, and consequently overlooked; or they may be completely masked by the symptoms of other associated affections, and thus escape detection. Of this we have daily examples in fevers and in head affections of both children and adults. But the application of auscultation and percussion at once enables the modern practitioner, if properly qualified, to arrive at a correct conclusion as to their existence.

Chronic pleurisy was habitually mistaken for other affections by the physicians of former times, and still is mistaken by those who do not practice auscultation and percussion; and yet nothing is now more simple than to determine the existence of this affection by these new methods of investigation. In illustration of how much we are indebted to these

methods for improvement in the accuracy of our diagnosis, let us examine for a moment the value of the definition given of acute pleurisy, by the late Dr. Good, in these words:—"Acute pain in the chest, increased during inspiration; difficulty of lying on one side, hard pulse, short distressing cough." Is there a physician who would now accept this as a definition of the disease, or from the presence of these symptoms state that it existed? You all know that he would not, and for the simple reason, that the use of his stethoscope and percussion have taught him that the disease may exist without any of these symptoms, and, what is of more importance, that if they were present, they may indicate the existence of pericarditis rather than pleuritis. How different is the accuracy of our diagnosis of acute pleurisy, as revealed by auscultation and percussion. This will be best shown by a rapid sketch of what they indicate as taking place in such a case. A patient complains of his left side. The symptoms I have quoted from Dr. Good may or may not be present. His physician immediately applies his stethoscope, and through it hears the sound, as of two rough surfaces rubbing over each other; percussion at first finds no dulness. In a few days the rubbing sound ceases to be heard, and it might be supposed that the disease had disappeared, were it not that percussion now detects dulness, owing to effusion of fluid, where clearness previously existed. Day after day this is found increasing in extent. The sounds of the heart now cease to be heard through the stethoscope in the region of the nipple, but are heard underneath, or to the right of the sternum, and can be traced daily passing gradually across till they are heard on the margin of the right arm-pit. In a few days more, the patient has been brought under the influence of medicine, and the fluid which had dislocated the heart begins to be removed; then, day after day can the heart's progress back to its natural position be traced by auscultation, till in a short time, by means of auscultation and percussion combined, we can assert that all fluid has been removed, and the lung has been enabled to resume its natural functions. There are few present whose experience could not verify the description I have given, and all are aware that the information thus obtained may be implicitly relied on, even should the patient's mind be so utterly prostrated as not to be able to answer a single question. It is known to you all that, for any such accuracy in diagnosis, or history of a case of acute pleurisy, we would search in vain the works of either Cullen, Thomas, or Good; yet this accuracy of knowledge is now possessed by every well-educated physician, though he should only have just completed his education.

It is unnecessary to make similar special remarks

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regarding the accuracy of our diagnosis of pneumonia, bronchitis, and other diseases of the lungs. Indeed, the value of auscultation and percussion might be illustrated by almost innumerable instances, but I shall only notice a few general examples of their utility. By them we are enabled to distinguish at once between organic and functional disorders of the respiratory organs; to detect serious lesions, while their functions seem almost unimpaired; to determine the precise situation of the lesion, its stage, and extent; to indicate the proper place to which our remedies ought to be applied, as well as to prevent error in their selection, by establishing that essential preliminary to all successful treatment—a correct diagnosis.

Acknowledging, to the fullest extent, the discoveries that have resulted from the application of auscultation and percussion to the investigation of the diseases of the lungs, we are constrained to admit that they have been surpassed in novelty and extent, if not in accuracy, by those that have resulted from the use of these new methods in recognising and distinguishing diseases of the heart and large blood-vessels. These diseases were imperfectly understood until within a comparatively recent period—almost within the last quarter of a century. Formerly, they were thought to be very rare, and, because not recognised till their advanced stages, were considered to be almost uniformly fatal—a popular impression which has still such hold on the public mind as to require extreme caution in announcing their existence. They often escaped detection altogether, in consequence of the attention of the practitioner being directed to other prominent morbid affections, such as congestion, and haemorrhage from the lungs, cerebral apoplexy, and different forms of dropsy, of which they were in reality the primary cause; but which, from an ignorance of auscultation, there was no means of detecting. For, if it has been successfully shown that general symptoms are insufficient to enable us to detect diseases of the lungs, we may, with tenfold accuracy, assert their incompetency with respect to diseases of the circulating organs, as every practical physician is aware that, where they would seem to point unerringly to the presence of organic disease, it may not be present; and, even when it is present, no general symptom might indicate its existence.

Formerly, as I have said, the diseases in question were considered to be rare, and almost uniformly fatal; now they are known to be very frequent; but, if treated in their early stages, they are found, though dangerous, to be by no means uniformly fatal, nor entirely beyond the control of medicine. The facility with which the stethoscope enables us to detect these diseases, and to

announce their presence, has caused non-professional persons to imagine that diseases of the heart were surely becoming more frequent. Recently they have been ascertained to be so associated with, and dependent upon, certain diseased conditions of the fluids of the body, that the early application of therapeutic measures to the latter has repeatedly been successful in preventing them.

Great as we have found the revolution produced by the application of auscultation and percussion to diseases of the lungs, it is undoubtedly greater and more important in connexion with diseases of the circulating organs; for these methods have revealed to us diseases, the very existence of which was previously unknown, and enabled us to detect them in their very earliest stages, and before a single feeling on the part of the patient or a single constitutional symptom had given warning of their presence. And if there be here to-day any member of this Society who is disposed to disparage the value of auscultation, I would ask him could any of our forefathers in medicine have detected in a single instance the existence of acute inflammation in either the lining or the covering membrane of the heart? We know well they could not; and that, even with reference to the most frequent cause of inflammation in both these localities, the only extent to which observation of symptoms through thousands of years had increased their knowledge was, that disease of the heart followed so often on acute rheumatism that they appeared to stand towards each other in the relation of cause and effect. But to tell at what period the heart became diseased, with what morbid process it commenced; in what texture of the organ it had originated, or how its presence was to be detected, was to them impossible.

How entirely has the application of auscultation removed this professional ignorance and incompetency! If we see a patient at the commencement of an attack of acute rheumatism, before the heart becomes involved, we can, by the aid of auscultation, tell almost the very hour in which inflammation will commence. We can tell, in the overwhelming majority of instances, whether it is seated in the interior or the exterior covering of the organ. If in the interior coating, we can tell whether it is the orifice through which the blood enters, or that through which it leaves the heart, that is involved. We can tell whether the disease only obstructs the passage of the blood from the heart, or whether it has so disorganised the valves as to render them incapable of preventing the regurgitation of the vital fluid.

For this precision in our diagnosis, we are chiefly indebted to the labours and observations of Bouillaud, in France, and in England, to those of Williams, Hope, and Latham.

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Again, if the exterior covering be attacked, the same sound of two roughened surfaces passing over each other which auscultation detected in acute pleurisy, is found to exist here also. This friction sound may, as in pleurisy, disappear in a few days, and the same erroneous conclusion might be formed as to the cessation of the disease, did not percussion inform us that the natural dull sound over the heart had become extended over a larger space, indicating an accumulation of fluid round the heart. In a few days the patient has been brought under the influence of medicine; the removal of the fluid commences; and when it has so far disappeared as to allow the roughened surfaces to approach each other, we have a return of the rubbing sounds for a short period, and then, by the conjoined application of percussion and auscultation, we learn that all morbid indications have ceased, and that all immediate risk to life is over.

Now, this knowledge has been acquired within the last quarter of a century, and it is with feelings of no little gratification that we can point to it as the result of the genius and industry of our illustrious countryman, Dr. Stokes.

But the value of auscultation is not confined to acute cases alone. Many of you, like myself, have been asked to visit a patient who thought "he had caught cold." Every portion of the lungs is explored with the stethoscope, without finding any disease. At last a faint murmur is heard over one of the large arteries; it is traced to its origin in the heart, and reveals the existence there of deadly disease, of old standing, the patient being all the while ignorant of its existence, and unconscious of any illness in which it originated. If asked of what value is the discovery of this incurable disease, which is causing no inconvenience? I reply that, apart from the scientific interest connected with its detection, it may be of vital importance to the patient. With a knowledge of its existence no intelligent physician would apply those debilitating remedies which, under other circumstances, might be applied with propriety. Nor could he forget, in the treatment of such a patient, that

Hœrit lateri lethalis arundo.

The examples I have given have shown the value of auscultation in the detection of diseases of the heart; but it is of no less importance in a group of cases in which certain symptoms and sensations in a patient lead him to believe that he is the subject of disease, when in reality he is not. These symptoms often imitate very closely those of real disease, and occasion much mental distress and anxious apprehension to the subject of them, lest he may be labouring under an incurable affection. I am certain that there are few members of this Society who have not had opportunities of removing such mental

disquietude by the application of the stethoscope, which enabled them to assure their patients that there was no evidence of organic lesion.

Time will not permit me to furnish illustrations of the great improvements that have taken place in our power of detecting those diseases of the substance of the heart and of the large blood-vessels, which are developed in the enlargement, the softening, or the conversion into fat of the former, and in the dilatation into aneurisms of the latter. In the discovery of these, our countrymen, Dr. Stokes, Dr. Corrigan, Dr. Greene, and Dr. Bellingham, have all borne a most distinguished part, having extended our means of diagnosis, and contributed rules for their treatment, that in practical utility could not be surpassed. I am certain that you will not have forgotten how unhesitatingly the indebtedness of our profession and of mankind to Laennec, as the discoverer of auscultation, has been admitted, and also the great perfection to which he had brought its application in investigating diseases of the lungs; but truth compels us to acknowledge that he was not by any means so successful in his application of it to the diagnosis of diseases of the circulating organs; inasmuch as many of the diagnostic symptoms and rules which he inculcated have been found by his successors to be quite incorrect. This, you are aware, was owing to the inaccuracy of the knowledge of his day respecting the motions and sounds of the heart, and not to a want of accuracy of observation on his part. In fact, the order in which the contraction of the various parts of the heart took place, and the cause of the sounds that were heard, were not ascertained till many years afterwards; and in their elucidation Professor Carlisle of Queen's College, Belfast, took a most active part.

The high state of perfection that has been reached in the diagnosis of diseases of the heart and large blood-vessels has resulted from the researches and discoveries of Laennec, Corvisart, Collin, Louis, and Bouillaud, in France; of Hope, Williams, and Latham, in England; of Stokes, Corrigan, Green, and Bellingham, in Ireland. Nor do I consider that I am detracting from the merits of British stethoscopists, if I assign a pre-eminent position amongst them to our countryman Dr. Stokes. He has shown himself to be a master in the diagnosis of disease of both the heart and of the lungs—in the former discovering almost all that we know of pericarditis and fatty degeneration; in the latter, the differential diagnosis of intra-thoracic tumours. Indeed, by his discoveries and published works on the diseases of the respiratory and circulating organs, he has earned for himself a position in the history of auscultation, only second to that of the immortal Laennec.

Whilst referring to what we owe to distinguished

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men in our own and other countries, in this department of medical science, we may observe, that we are not aware of any contributions Scotland has furnished to it by any of her physicians, or the professors in her universities or colleges. Dr. Hope, who wrote so ably on diseases of the heart, was, indeed, born in Scotland, but he pursued his investigations into cardiac diseases in England; so that we think it will be found, that all the really valuable additions which have been made, out of France, to the diagnosis of the diseases of the lungs and heart, have resulted from the researches of either Englishmen or Irishmen, in which investigations, Ireland's sons have borne no inglorious part.

We must not, however, forget how much our therapeutic knowledge has been advanced by the zealous and judicious manner in which Dr. Bennett, of Edinburgh, has introduced cod-liver oil as a remedial agent in the treatment of thoracic and other diseases.

I have now terminated my inquiry into the progress that has been made in our knowledge of diseases of the lungs and of the heart; and I believe that I am justified in stating that if medical science could indicate no other discoveries than those I have mentioned, they are abundantly sufficient to prove that the slander that has been published against us was unfounded and unjust. More numerous proofs of advancement could have been given, had I not been compelled to limit myself to an enumeration of some of the most prominent, the value and accuracy of which have been admitted by the most intelligent and trustworthy physicians in every country. I must add that the largest exercise of charity cannot reconcile us to the opinion that a discovery like auscultation and the stethoscope, which was the theme of conversation amongst all classes in the community, and which had its aid invoked by the highest and wealthiest in the land, as well as by the poorest of the poor, could have been so utterly unknown to the reviewer I have named, as to warrant his asking the disparaging question—"Has the practice of medicine made a single step since the days of Hippocrates?"¹

I have next to inquire into the improvements that have been effected in the diagnosis of the diseases of the digestive and eliminative organs. Many asserted discoveries in this department have not yet received the assent of the majority of physicians; and as in my examination of the nervous, respiratory, and circulating systems, I only noticed such discoveries as had met with general acceptance, a similar course here will render my notice a very brief one. Notwithstanding the increase to our knowledge of the physiology of digestion that

resulted from the observations and examinations made by Dr. Beaumont, through the valvular opening in the stomach of the Canadian, St. Martin, we are still compelled to admit that little, if any, improvement has taken place in acquiring a more accurate diagnosis in the diseases of the stomach. Some progress has, however, been made in distinguishing the inflammatory diseases of the intestines. The researches of the late Dr. Abercrombie have shown that inflammatory pain, when associated with a loose state of the bowels, may be, in the majority of instances, accepted with considerable confidence as indicative of the mucous coat of the intestines being involved; that pain, if accompanied by a constipated state of the bowels, may be interpreted as symptomatic of inflammation of the muscular coat; and again, that when the inflammation is limited to the peritoneal coat there will be pain, soon followed by dulness on percussion, and that the bowels may be either loose or constipated. Previous to those investigations of Dr. Abercrombie, all the inflammations of the bowels were included under a common name, and the peritoneum supposed to be frequently involved, when the mucous membrane alone was affected, it being now well ascertained that the serous and the mucous tunics of this organ are rarely involved in the same acute inflammation, except when occurring in the puerperal state.

With respect to chronic inflammation of the peritoneum, an interesting application of the law of tubercular development was found to apply. Louis had observed, during his researches into tubercular disease of the lungs, that if, after the age of fifteen years, tubercles, or grey semi-transparent granulations, were found in any organ, they existed at the same time, in a more advanced stage in the lungs. And, as chronic peritonitis, occurring subsequently to the age of puberty, is always tubercular, an application of the law just stated indicates that that disease is always associated with tubercles in the lungs, although their numbers or development may not have intimated their presence. The well known accuracy of Louis's observations requires us to admit this as a fact, and it should never be forgotten in the treatment of chronic peritonitis, for it at once prohibits the use of mercury, which has been found of such unquestionable value in the treatment of the acute disease. The only eliminative organ in the abdomen, in which the diagnosis of its diseases has made undoubted progress, is the kidney. About a quarter of a century ago, Dr. Bright discovered that this organ was very frequently the subject of disease, which gave origin to a number of other secondary diseases that, previous to his investigations, had never been supposed to be in any way connected with the kidney. This state of the kidney he

¹ Op. Cit. p. 253.

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considered capable of being ascertained by a diminished specific gravity of the urine, but especially by the presence of albumen in it. A considerable amount of discussion and investigation, continued even to the present day, followed his announcement of this hitherto unknown disease. Some have differed with him respecting its nature, others as to the pathognomonic value of the diagnostic symptoms he had announced. All, however, are unanimous in acknowledging the kidney to be liable to a disorganisation previously unknown, and that its detection depends on an examination of the urine. In honour of the discoverer, it has received the name of "Bright's Disease," which will perpetuate the name of this distinguished physician, like that of Mr. Pott, through all future ages of our profession, and mark him as one of the most accurate observers of symptoms during the lives of his patients, and a successful tracer of them to their cause after death.

It is not without some interest to remark, in passing, that notwithstanding Dr. Bright's unlimited zeal in examining patients when alive, and their bodies after death, yet he possessed so little moral courage, that when ill himself, he would permit no minute investigation to be made into the nature of his disease; so that, although he had the advice of some of the most eminent physicians of the metropolis, yet from compelling them to rely upon mere symptoms in the formation of their opinion, he died without his disease being detected, although the examination of his body after death proved that the application of the stethoscope would have revealed it in a few seconds.

But, to return to the diagnosis of Bright's disease of the kidney. If some recent statements be verified, there would at last appear a means of reconciling the conflicting opinions and statements I have alluded to, and of establishing some most valuable symptoms for diagnosis. The researches of Dr. George Johnston and Dr. Wilkes, some years ago, conjoined with the recent investigations of Mr. Dickenson into the particulars of a large number of cases treated at St. George's Hospital, appear to have proved that there are two forms of diseased kidney to be met with under the name of Bright's disease, and that each of these possesses peculiar diagnostic symptoms, amongst which Mr. Dickenson now wishes us to include the age of the patient. First, there is an enlarged kidney with a smooth surface, in which it is the secreting surface of the tubes that is deranged. The diagnostic symptoms of this form are stated to be scanty urine, with a specific gravity above 1,015, much albumen and coarse granular tube casts; considerable dropsy; the average age of fatal cases being 28 years. In the other kind, the kidney is contracted, granulated or lobulated on the surface, and

the disease seated in the tissues between the tubes. The diagnostic symptoms of this form are stated to be a rather abundant secretion of urine, with a specific gravity below 1,015; little albumen; some transparent tube casts, loaded with fat or oil; little dropsical effusion, and the average age of fatal cases 50, the patients being often gouty. My own experience leads me to believe that this new classification and indication of the symptoms peculiar to each may be relied on in practice, if we take care to separate those cases in which the urine contains albumen, in consequence of impeded circulation through the heart.

Here, again, we have another example of the discovery of a new disease and its diagnostic symptoms, resulting from the observations and researches of physicians within a comparatively recent period. Nor must we forget that Dr. Christison, colleague of Sir William Hamilton in the Edinburgh University, took a very distinguished part in indicating the secondary diseases that most frequently appeared during the progress of Bright's disease; whilst Dr. Geo. Johnston, and, more recently, Dr. Basham, have most successfully applied the microscope in detecting the various kinds of casts and transudations that are found present in the urine during the course of this disease. Indeed, the latter asserts that greater dependence can be placed on the revelations of the microscope than on those other diagnostic marks hitherto relied on.

The recent researches of Dr. Addison, of London, have directed the attention of physicians to a diseased state of the supra-renal capsules, and to a frequent association with it of a peculiar discolouration of the skin, and a state of great constitutional languor and debility. As yet, however, it has not been proved that these exist in the relation of cause and effect; nor has much practical utility resulted from the discovery.

I have now passed in review the more important discoveries that have been made during the last fifty years, in connection with the diseases of the three great anatomical divisions of the human body. In all of them we have found evidence of additions to the knowledge of the practice of medicine, that could not have been anticipated at the commencement of this century. There are few amongst us who have not read the terms of derision in which all the leading journalists received the announcement of what auscultation and percussion proposed to effect; and we now know that they vie with each other in proclaiming their success. Notwithstanding the physical obstacles opposed to a minute investigation of another department, we have found discoveries effected of the very highest importance, and conjoined with a more accurate interpretation of symptoms in their diagnostic, therapeutic, and prog-

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nostic relationships; all contributing to the preservation of life. And, lastly, we have had revealed the existence of a most fatal form of disease in one of the eliminative organs, and its diagnostic symptoms established on a most certain and accurate basis. With such indisputable evidence of progress in the practice of medicine, are we not justified in appealing to every impartial mind, whether a satisfactory reply has not been furnished to the defamatory remarks which a high name has circulated against us.

Had time permitted, I might have alluded to the glorious termination to the investigations of the physicians of the last century in the discovery of vaccination by the immortal Jenner, in 1796, which is estimated to save at least 500,000 lives each year, and which, if unacknowledged by the reviewer I have named, had elicited from the savage chief of the Indian tribes, the following most striking language:—"We shall not fail to teach our children to speak the name of Jenner, and to thank the Great Spirit for bestowing upon him so much wisdom and so much benevolence." I might have alluded to the labours of Howard, the philanthropist, a member of our profession, who has effected such an annual saving in human life by his reformation in the management of jails and lunatic asylums. I might have instanced the saving of life that has resulted from the practice of medicine in its obstetrical department, so that the mortality from child-bearing has been reduced from one in fifty to one in two hundred; and that, from a better management of children's diseases, and attention to hygemics, 100,000 lives are now annually saved, when compared with the mortality that prevailed among children less than two centuries ago. And, finally, I might mention the prolongation of human life generally in these countries, resulting from a more successful treatment of diseases, and from the adoption of various sanatory arrangements, first suggested, by our profession; so that, whilst it is known that one in every twenty-one of the inhabitants of England and Wales died annually about a century and a-half ago, now the bills of mortality only indicate one in every forty-five.

I had originally intended to have entered more minutely into these subjects, and to have reserved a portion for a closing address. I feel compelled, however, to condense both addresses into one, and to indicate only the more prominent discoveries in our science. I trust that enough has been said to establish for medicine a valid claim to an unquestioned position amongst the progressive sciences. I have only to regret that the enumeration of the proofs of its advancement, and the defence of its practitioners from the slanders that have been published against them, had not devolved upon one more competent to the task.

Gentlemen, the value of a society like this to ourselves, as well as to the public, the spirit that should influence our proceedings, the necessity for each member exerting himself to promote its success, have all been so well placed before you by others, that it would be a work of supererogation did I dwell on them again. Aware that my position as President renders it undesirable that I should be a frequent contributor to your proceedings, I have to hope, that the Session we now enter upon shall be productive of such varied and valuable communications from you all, as to prove that your zeal, industry, and anxiety for the prosperity of this society have in no degree diminished. I enter on my duties, pleading for an extension of your forbearance, in consideration of my many shortcomings, and with unfeigned anxiety, lest anything should occur that would in any way check the hitherto prosperous career of this society.

Need I add, how desirable it is that all possible courtesy should be extended by you towards each other during debate, so that when the session closes we shall separate with those feelings of mutual esteem and respect which it is desirable should exist among the members of a profession that has been organised in harmony with the commands of the Great Physician to His disciples, when He said—"Into whatsoever city ye enter, heal the sick that are therein." Having such an authority for the practice of a profession which exercised the sympathies of even Divinity itself, I shall close in the not inappropriate language of an eloquent historian of medicine, who says—"Who of us shall forget its ever-living charities; its moving scenes of joy and sadness; its many sunny aspects; its benignant, ennobling, liberalising influences; which few beyond our own circle can properly appreciate, and none so well understand as ourselves."