ADDRESS ON THE PROGRESS OF MEDICINE.*

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GENTLEMEN,—Having had the honour of being requested to preside over the meeting of to-day, it was suggested that an address on some medical subject might not be regarded as inappropriate, this being the first of those gatherings of the East Sussex and West Kent Districts which, it is proposed, shall annually be held at Tunbridge Wells. In compliance with this request, I shall endeavour in brief manner to glance at a few of those subjects which may be considered as being amongst the most prominent of those recognised advances which have been made in medicine during recent years, and which are within the recollection of most or many of us here assembled. In making this attempt in the short time which I shall venture to detain you, I feel no little difficulty, as there has latterly been such a vast accumulation of facts, so much real knowledge established on a firm and lasting basis, and such veritable improvements in practice, that it would be hard to crowd into a short space even but a passing reference to them.

It has been, and truly, said that Cullen did for medicine what Newton did for astronomy. He reduced it to order and a system. He culled from generalities, vague speculations, and transmitted empiricisms, materials out of which he reared the superstructure of a science. He saw that, in addition to a close observance of morbid phenomena, to arrange and classify diseases would confer great aid in the prosecution of their more successful study. He conceived, and correctly, that many ancient dogmas and much of false philosophy, which had trammelled thought and fettered physic, ought to be discarded. His clearer conceptions, and the method which he propounded for a long period in this and other countries, found acceptance; and to his genius our art lies under an enduring obligation. If, however, we take a retrospect over the last quarter of a century, it becomes obvious that philosophic experiment, wider observation, and real discovery, have tended in no slight degree to break down the Cullenian classification, and they have shown that his nosological arrangement was far too defined and absolute. Whoever will compare the nosology recently published by the Royal College of Physicians with the nosology of Cullen, will at once be impressed with the truth of this remark. They will then see that his divisions and distinctions erred in the way of separateness, that his definitions were too nicely drawn, and that symptoms were erroneously put down as primary conditions and essential differences. It is the acknowledgment of explicable or the presumption of occult correlation between morbid processes, which constitutes one main feature in that change of thought which distinguishes modern medicine from the reasonings and deductions of the older physicians; and it is indisputable, that to hold fast to this principle in our clinical studies is of paramount importance. Indeed, in the aim at furtherance in knowledge in all of the other physical sciences, to become better acquainted with fundamental causes is to give a correcter notion of the more manifest phenomena; and, without such knowledge, inference is then mere empiricism. If, for instance, the attempt were made in any way to illustrate the definition of disease given by Fernelius—"Morbus est effectus contra naturam corpori insidens"—such would be very imperfectly achieved by the mere pointing out of objective symptoms, as the true explanation would imply change of structure and perversion of function. In thus incidentally speaking of symptoms, it may be remarked, that the better and more accurate employment of this term really constitutes one example of that progress in medicine which it is the object of this address to recount. Physiological pathology has greatly shown, and is showing more and more, that diseases are not those individualisms, those distinct material entities, which the older authors and systematic writers had led their readers to suppose; and when diseases are now, in more strictness of language, defined to consist of tissue-change and perverted function, the symptoms by no means stand apart from the complex alterations going on in the organism; and, as it has been observed, the once more prevalent notion of disease being one thing and symptoms another for a long time opposed the advance of pathology. Symptoms are the appreciable parts or facts of integral disease; and we now, for the useful purpose of increased precision, speak of *physical signs*, qualities least observable from without, which in reality are, however, symptoms under another name. Amidst these new views, the thing pneumonia means much beyond that which the term implied a generation ago; it is something more than structure-change. We hardly ever now speak of it as an idiopathic affection; and, when it occurs, we seek for some explanation of its presence in certain more

diffuse and fundamental mutations in the system. We regard it as intercurrent or sequential, rather than as a primary lesion; and, according to the objective symptoms, we ask ourselves if it be the outcome of an antecedent cardiac, tubercular, or renal cause; or whether it be the complication of a foregoing and an attendant pyrexia. And our treatment becomes modified according to the decision at which we arrive. The old notion which once mainly possessed the physician's mind, of the expediency to subdue and expel from the body this entity, this something of a material nature, which was deemed more or less substantive, or coming externally into, or engrafted on, the system, was an idea of the past; nor can it ever hold a place again in the more recondite reasonings of scientific men. With the truer knowledge of pneumonia, in all that pertains to its essential qualities, it is not now by any means regarded with those apprehensions with which once it was contemplated. In the example of a still more familiar affection, if we take whooping-cough, comparatively, the cough, spasmodic and distressing though it be, is but a subordinate characteristic in the course of the complaint. The name implies, as we now know, a good deal more than by it is inferred. It really means the absorption of a *matrices morbi* of zymotic qualities. In 1867, Poulet discovered in the mucus of whooping-cough a specific microscopic organism. Jansen also made similar examinations, and found bacteria-like animalcules, which were the *chilomona sparmecium* of Ehrenberg. The effect of such cause is a potential influence on the medulla oblongata and the pneumogastric nerve, and in morbid sequence may eventuate pulmonary congestion, bronchitis, pneumonia, emphysema, and sometimes convulsions and hydrocephalus. To take one more illustration: formerly there was much of oneness and distinctness ordinarily entertained in the conception of acute peritonitis. Types of its idiopathic character were broadly admitted; and I think, in some exceptional cases, such admission cannot be disallowed. But many leading authorities of the present day will hear of no such thing, as they regard acute inflammation of the peritoneum as being always associated with other and foregoing structural change. In the article on Peritonitis in Reynolds's *System of Medicine*, I have more fully discussed this subject, but without concurrence in a doctrine so unexceptional and absolute. The term idiopathic, in most inflammatory affections, is now doubtless to be used in limited, if not in very dubious manner. Names in medicine are, but arbitrary distinctions, and any nomenclature must vary with the acceptance of new facts. From what has been said, it is evident that the interrelation which subsists between the processes of morbid action is far greater than once was imagined. The thoroughness of our knowledge relative to organs and tissues, in such as pertains to their intimate formation and vital endowments, as compared with such attainments in the past; the new aids which have been brought to bear on the various modes of investigation, and the multitude of observers who follow up any so-called discovery, have tended to prove how effects were formerly too frequently interpreted as primary conditions. And this profounder examination and more inductive method of reasoning have exerted a marked and beneficial effect upon practice. We now look upon dropsy as a symptom, as one integral part entering into the sum of changes, structural and functional, during life, and not as a substantive complaint, any more than cough in pleurisy and dyspnoea in pneumonia are substantive complaints. According to the cavity or tissue in which fluid is effused, we elect the right class of therapeutic agents. We do not give diuretics in renal anasarca, as it was once the custom, but we act upon the skin and the radicles of the portal vein; but we *do* give diuretics, and freely, when there is only hepatic disease, and such is evidently cirrhosis. This ability thus to judge and thus to act is the kind of improvement towards which our main efforts are, or ought to be, directed. It is progress in the right line, because it is progress which tends to certitude as the result of remedial measures. The want of certitude as the effect of our resources has been the lament of physicians in all ages. From the ancients to our own day, there has been, and it is feared will long continue to be, more or less of guessing in physic. "I have reached the end of life," said one of the older physicians, "and am tired of guessing."

Pathology, or that knowledge of morbid changes, and the mode in which such changes occur in structure and function during life, as evidenced by examination after death, has accomplished great things. The facts which have emanated from its more careful and extended prosecution have thrown great light upon and vastly improved diagnosis; and, as all treatment becomes immediately referable to that process of thought whereby we decide on the nature and working of diseased conditions, thus our practice has become more perfected. Perhaps the greatest achievement in pathology during the present century was that made by Bright relatively to renal maladies. This discovery opened out a new territory, and heralded the way to marked and manifest improvements. The new region he made known has been surveyed and

* Read before the East Sussex and West Kent District Branches.

mapped out by many successors, and much, such as our acquaintance with the gouty and syphilitic conditions of the kidney, has been added to what Bright first revealed. The presence of albumen points with index finger to the diverging roads of many pathologic changes. If, by the process of exclusion, we find it is not owing to mechanical obstruction, the result of cardiac or pulmonary disease, we assign to it a humoral origin—a morbid condition of the blood. It is now admitted that the different forms of kidney-lesion come from a conservative effort in the system to free itself from the noxious materials diffused in the circulatory fluids. Their irritant qualities give rise to tissue-changes. We are aware also how retained urinary excreta produce inflammation of the serous membranes, and that uræmia often proves fatal. Again, as one more example of many consequent on this new knowledge, it may be said that cardiac complaints have received much elucidation. Blood thus poisoned gives rise to obstruction in the minute vessels and capillaries. The heart labours to overcome such obstruction. Excess of function has an hypertrophic tendency, and more especially in the left ventricle. But the result does not stop at mere hypertrophy: vital nutrition is impaired; tissue-metamorphosis eventuates, and thus molecular perversion supplants the sarcois element and substitutes olein. In other words, there is fatty degeneration; and then follow dilatation of the cavities, more especially of the right side, and visceral congestion with effusive products.

Our better acquaintance with the retrograde metamorphosis of the tissues is a prominent feature in the recent progress of pathology. Indeed, it may be said that a clearer conception of these degenerations can hardly, in a practical point of view, be over-estimated. To recognise these gradual mutations of structure, such as the granular, the fatty, the albuminoid, and the calcareous; to know that they thicken, diminish elasticity, and render brittle organs and structures concerned in vital processes, is to prepare us for sequential occurrences, and to confer knowledge of paramount clinical importance. To know in the young a tendency to *ramollissement* in the central commissures; and in those of advancing years, and the aged, to detect fatty waste in the cardiac ventricles, or to shrewdly suspect stiffening of the cerebral arteries, is to put us in possession of such information as may confer some power, at least, in deferring other contingencies. We can then comprehend the correlation between a soft heart and apoplexy, and between the narrowed calibre of some artery in the brain, and the circumscribed decay of white structure. The kind of knowledge now indicated, and which has latterly overgrown former attainments, has notably modified treatment. Practice, once strangely termed heroic, has passed into the domain of history; the old notion of a phlogiston has all but departed, and hence we hear less of antiphlogistics; we bear in mind that the sum total of disease means perverted function with correlated nutrition change, and that vice, in these interstitial processes, is from diminished rather than from excessive vitalism, and thus our remedial endeavours have become mainly supporting and sustaining, as contradistinguished from the hypotheses and convictions of a passing age. Next in importance may be named the discovery of Kirkes and Virchow. Embolism and thrombosis have solved problems which previously had received very different kinds of solution. They have explained morbid actions, which before were wrongly interpreted. A piece of lymph is swept afar in the current of the circulation, and plugs a distant vessel, it may be in the spleen, the liver, the kidney, or the brain. Disease, by this abrupt cutting off of nutrient blood-supply, follows, which used to be referred to the doctrine of crasis. Those pyramidal patches in the solid viscera, which are preceded by congestion, the consequence of blockage, and that pass into the suppurative state, and which Rokitsky explains on the dyscrasial theory, are doubtless caused by embola; and the purulent deposits spoken of by Rayer, in his great work on the kidneys, are now referable to a like cause. Nothing amongst our recent attainments, relative to pathologic and chemic changes in dead parts, are more interesting than embola and thromboses.

With regard to inflammation, a condition with which, both as physicians and surgeons, we have much concern, no great mutation of views has latterly obtained. Cellular pathologists have long told, and still tell us, that its leading phenomena are those of abnormal nutrition. The doctrines held respecting it may be looked upon as a sort of compromise between solidism and the humoral theories. From a truer conception of its essential nature has come great gain. The object now is to favour plastic exudation, and not to lower vitalism, and thus degrade effusive materials.

With a more demonstrable and sounder pathology, is a clearer recognition of those eliminative efforts in the system, which may be deemed conservative. To favour, not to subdue and check their excess, is generally the aim of our remedies. We now are aware that blood-poisoning is frequently the etiological explanation of many morbid phenomena. In diabetes, the elimination of sugar is protective from

worse results. The flow of bile through the ductus communis, from some temporary or permanent cause, being arrested, the secretion is revulsed into the circulation, when the urine carries out that which would be harmful, if retained. In gout, the giving off of uric acid, and the deposit of urate of soda, are salutary. Malaria, or the specific poisons of typhus, enteric, or relapsing fever, are contracted when the bowels and skin form the great outlets whereby nature essays to cast out the noxious agents. The alvine evacuations in cholera, it is now held, are to be favoured rather than restrained, as by these outpourings the system is eliminatively relieved—a doctrine which has become widely accepted. In variola, the pustular deposits on the surface are a means whereby nature frees the blood from materials which could not innocuously be retained in the circulation. And of the other exanthems the same observation holds good. By this mode of reasoning, the majority of chronic cutaneous affections may be accounted for; because it is now allowed that certain alterations in the composition of the blood produce disturbances in the investments of the body, from modified blood-distribution, consequent on changes in the nerve-centres, the more apparent secretorial products being essentially eliminative, and consequently dermatologists, in these days, look deeper into the pathology of skin-diseases than the epidermis and the derma. This spontaneously curative effort of elimination may also occur without the expulsion of morbid products from the system. For instance, in dropsies; effusion is determined into the great cavities of the chest or the abdomen, or, it may be, into the pericardium, or the areolar tissue, when local vascularities become relieved, or, perhaps, saved from rupture, and the more continued congestive and inflammatory states are benefited. We then mark how such event mitigates the more urgent and distressing symptoms of an acute stage. For example, in pericarditis and endocarditis, when the heart labours and the pulse intermits, with the outcome of the fluid into the pericardium follow lessened præcordial impulse and intermittence, and often an expression on the part of the patient as being more comfortable. In pleurisy and in peritonitis, the advent of effusion, sometimes with much suddenness, cuts short the more prominent characteristics of the inflammatory phenomena. Various other illustrations of the salutary tendency of this eliminative secretion might be cited had time allowed.

Another great addition has been made to pathology by our being far more conversant with the affections respectively known as pyæmia, septicæmia, and ichorrhæmia. It is now allowed that the last named may have its origin in hospitalism, and from without, and that it may also be caused within the organism. From recent and extended discussions, it is also clear that this affection is by no means confined to hospitals, as it was once assumed, but that it may, and does, occur in the most healthily situated houses in the country, remote from deleterious gases, and in the purest atmosphere. We now acknowledge the difference between pyæmic and infective inflammation and septic action; and pyæmic disease can hardly be said to obtain without more or less of septicæmia as the concomitant, but the septic action is far feeblere and less irritative. Most pathologists now believe that the transference of pyæmic products from one part to another is by means of the lymphatic system or of the veins. Some have lately spoken of idiopathic pyæmia. In such cases, most probably the local starting point, or focus, has not been discovered. There still remains much that is uncertain relative to these affections; yet we can now anticipate a train of diseased processes which formerly were much less suspected, and, when they did occur, were far less understood.

[To be continued.]

CASE OF RENAL CALCULUS BECOMING VESICAL: LITHOTOMY: ABSCESS OF KIDNEY: PERITONITIS: DEATH.

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PRIVATE H. W., 103rd Regiment, aged 20, eight months in the service, on May 7th, 1873, whilst exercising in the gymnasium, pressed his abdomen against the horizontal bar, and immediately felt a most acute cutting pain in the right hypochondrium. He continued to suffer from acute paroxysmal cutting pains, which obliged him to go into hospital, where he remained a month under treatment, and was discharged apparently cured. A fortnight afterwards, the pain returned, and compelled him to again seek admission into hospital, whence he was sent to the Royal Victoria Hospital, Netley, on July 30th. On arrival, he presented a healthy aspect; his circulatory and respiratory systems, temperature, and urine were normal; he, however, could not rest on his