CLINICAL MEDICINE

A FAREWELL LECTURE AT ST. BARTHOLOMEW'S HOSPITAL

BY

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In place of the customary "Gentlemen" with which these lectures are prefaced, I am to-day privileged to address you as "Colleagues and gentlemen." The compliment paid to me by the presence of so many of my fellow teachers is both graceful and touching. It is also, as compliments are wont to be, expensive, since the occasion which determines it costs me a great deal. Swan songs are prone to be sententious—a quality which I always try to avoid, whether in speech or in action. Personalities I dislike just as much as I dislike sententiousness. I will allow myself one brief deviation from my practice in respect of each of these two antipathies. I admit that if, after all these years, I have no sort of message for those who follow me, I should feel heartily ashamed. I also admit that this, my last clinical lecture at Bart's, far from leaving my withers unwrung, strains them to their utmost.

The occasion justifies a departure from custom in regard to these lectures. To-day I am not bringing before you a "difficult case," unravelling its complications as best I can, and trying to make clear the mental process by which this may be done—and thereby invite that drowsiness which, in these circumstances, tends to steal over my audience (pardonable only in the case of my house-physician, for has he not already been "bored stiff" by my previous rehearsals in the ward?). Nor am I bringing a more simple case, which may be taken as a peg upon which to hang a list of causes or symptoms of disease, and thereby stimulate those who scent the possibility of something which is of potential use in another place—a stimulus which extends at times even to a little hurried note-taking (for I have never misconstrued this brief spurt of active, rather than passive, attention on the part of the less frugal-minded of my audience). Instead of doing either of these things I propose to say something about clinical medicine itself—that is, about that part of the physician's work to which these lectures are a running commentary.

Functions of the Clinician

Whatever may be the special branch of medicine that attracts us, it is commonly accepted that it is at the bedside where, on the one hand, the vital expressions of diseases are manifested, and where, on the other, the contributions made by the laboratory, both to diagnosis and to therapy, must eventually be tested. "*Les malades, toujours les malades.*" But medicine provides such a large field for human interest and activity that there are many points at which a man may branch off into a whole life's work of relatively detached scientific effort. Any one of these digressions may take him so far away from the patient that, quite joyfully and quite successfully, he may make valuable contributions to what becomes, in effect, pure science. He may then be tempted to consider clinical medicine but a poor affair, scarcely worth the pursuit of a trained intelligence. Whereas I regard it as a very inviting field for the most highly cultivated minds—a field in which meagre achievement, far from indicating an essential poverty in the soil that is being tilled, signifies only that the husbandman is not always as alert and well equipped as he might be. However, what I say this morning is not intended as an apologia for the clinician so much as a brief survey of his place in medicine, and how his functions are, in my judgement, best performed.

In the view of some people the clinician has not advanced or developed proportionately with those of his colleagues who are primarily concerned with the ancillary subjects of surgical technique, bacteriology, and biochemistry. I cannot accept this estimate, and I think it is due to a false, or a forgotten, conception of the clinician's function. Though this remains what it fundamentally always was—the collection and evaluation of all available data which are pertinent to the diagnosis and the treatment of the sick person—I believe that the growth of the means by which this function is achieved has been even greater in the case of the clinician than in the case of any one of his colleagues, for the reason that the whole of their combined knowledge is available for him if he is familiar with it and cares to use it.

In my own time I have witnessed three great advances in the science and art of clinical medicine, and (though "I speak as a fool") these advances have seemed to me to make the clinician of much greater potential service to the patient than he was before they took place. How much he is actually of greater service depends upon himself and the degree to which he has absorbed these advances and transmuted them into his practical work.

The function of the old clinicians was not inaptly termed "walking the wards," an expression which has its modern counterpart in "going round." Our predecessors made large observations rather than small, and they acquired a facility in diagnosis and in prognosis which seemed to many quite uncanny. This facility was really due to the fact that they had trained themselves to make a greater number of observations than they were actually aware of. Their eyes and ears and touch and smell were unaided by instruments of precision, and the pitch of excellence to which their senses perforce—and at long last—arrived was very astonishing. But their exactness stopped short at the point where their unaided senses could pierce the mystery no further, and this in many cases was stopping too short to enable them to give the help which the patient needed. For example, septicaemia was only septicaemia, and heart disease, for the most part, was only heart disease.

Three Great Advances

Then came the first great advance. With the increased frequency of, and greater thoroughness in, post-mortem examinations, the clinician began to "think morbid anatomically." This was a notable move forward. He was able to visualize the diseased organs as they actually existed during life, and this visualization gave his clinical methods a clearer purpose and direction. This habit of correlation of the clinical features of the case with post-mortem experience remains, and must of necessity remain, one of the most valuable aids to diagnosis and prognosis. The clinician who relaxes in a punctilious attendance at the post-mortems upon his patients, or upon patients of his colleagues, thinking the time could be better spent in the wards or in the out-patient rooms, is not only denying himself the chief correction to his exuberance and to his vanity, he is departing from the bed-rock of medicine itself. What he says at the bedside may or may not be the truth; what he sees in the post-mortem room is the truth. In this connexion I should like to enter a plea against too much reservation of post-mortem material for deferred examination. Some such reservation is at times desirable and even necessary, but it should be upon the decision

of the pathologist and of the clinician jointly, each having regard to the claims of the other. Be it remembered that diseased organs that are opened at the time of the post-mortem examination, and are seen in relation to the rest of the body, nearly always throw light upon the obscurity that has perhaps been in the minds of those who have seen the "case" during life; whereas organs that are dissected by the aid of the pathologist's midnight oil may or may not illumine his own individual darkness.

The second advance came with the development of laboratory methods, since in these the clinician found new and invaluable aids to his work. The study of the patient *qua* patient was supplemented by the study of materials derived from the patient. Thus we saw the birth of clinical pathology. The past thirty years have witnessed this lusty babe grow up to a vigorous manhood. As is wont with the virile adolescent, there have been times when he thought himself more important than he really was, when he sought to bestride the whole world of medical knowledge, when he firmly believed he *was* medicine rather than merely making his contribution to medicine. His incursion into the sick-room was apt to be somewhat brusque, not to say at times truculent. Cuckoo-like, he jostled and pushed and oftentimes succeeded in ousting his more timid and gentle colleague from the latter's legitimate sphere. He took to describing himself in the telephone directory as "physician," and he invited the credulous sick to consult him. The public, with its child-like confidence in machinery, loved him, welcoming his advent as signalling the millennium of exact medicine, and unaware that the human brain is the best machine of all. A catalogue of the flora of the fauces and/or of the faeces, a complete blood count, a chemical analysis of the urine to the third place of decimals: "What further may be sought for or declared?" Not only was the new gospel about to dispel the darkness that shrouded diagnosis, it was about to illumine the therapeutic field also. The "opsonic index" for the exact diagnosis, the hypodermic syringe, charged with the appropriate antigen, for effective treatment, and medicine was "taped" at last. The clinician came to be regarded by some with amused tolerance; by others, even less generously minded, as obstructive to real progress. Nosology disappeared and pathology contracted down to the name of the infecting agent: patients no longer suffered from diseases but from micro-organisms. "What is the matter with the man in Bed 4?" "T.B." . . .

But fortunately for the patient, for whom, like the soul of Faustus, the powers of good and evil were fighting, some clinicians kept their heads. They absorbed what was good in these clinico-pathological advances, seeing in them important supplemental aids to their methods rather than a substitution for them. But the older and cruder notions of infection had to be entirely revised, and gaps in the knowledge of metabolism had to be filled. Not only was it necessary that the clinician should think morbid anatomically, it was necessary that he should think bacteriologically and biochemically also.

Then came the third great advance, and by means of an entirely new tool. I refer to the arrival of roentgenology. Though useful from the first, it has taken a good many years to improve the technique and get the method under control, but to-day there is probably no more useful addition to the clinician's methods. The exercise of forbearance in interpretation on the diagnostic side and moderation in claims on the therapeutic side has become an important part of the clinician's work.

Essential Clinical Data

I said just now that the fundamental function of the clinician is to collect and evaluate data. But what data? The clinician is not a *mere* collector of data. If he were, diagnosis would be as easy for one man as for another.

Nor is he a mere recorder of cases seen. If he were, the palm would go to the panel practitioner or to the junior casualty physician, though this consideration waives a fact with which we are well aware—that it is possible, nay easy, to see a great number of patients and yet not see their diseases. It is the *essential* data that we want, not the unessential. It is data that are associated, not data that are dissociated. The capacity to neglect is as important as the capacity to take notice. True, the more obscure the case the less we can afford, in the first survey, to omit any examination; but after a time there comes what may seem to some an almost astounding negligence. This is not forgetfulness, nor a lapse from good methods: *it is the ability safely to omit*. Patients' dossiers are apt in these days to be so full and so heterogeneous that the courage to say of some of the reports, "Noted, nothing doing," is often the first step in the elucidation of the problem. It falls to the clinician alone to become familiar with the range of health, to be sensitive to what lies within it and to what lies outside it. The exercise of this sensitiveness in any particular case becomes more and more essential the more meticulously exact the reports of the experts may be. And these reports tend to be more and more meticulously exact with the increasing tendency to specialism and the myopia which goes with it. The number of patients whose hearts are healthy is in inverse proportion to the number of cardiologists they consult and the frequency with which they are "electro-cardiographed." An upper respiratory tract which is passed as "normal" by a careful "nose and throat man" will soon be so rare as to merit demonstration at the Royal Society of Medicine.

It has been during the recent period of intensive laboratory investigations on the clinico-pathological side of diagnosis that the notion has arisen that the clinician's observations are not really scientific, that they are of the nature of guesswork, whereas everything that happens in the laboratory is controlled by the infallible rules of logic. The test tube and the microscope cannot lie. But God alone knows if what the physician thinks is an enlarged spleen is the spleen; or if rose spots are not "any old spots"; or the association of a soft and infrequent pulse with a continued high fever is not some odd trick of Nature designed to intrigue the curious-minded; and why should not a week of intense headache pass away somewhat suddenly and be replaced by a muttering delirium; and an unexplained deafness appear? Funny things like these do happen to people who suffer from a disease of microbic origin. But the one certain thing is that the disease isn't typhoid fever or any infection in the T.A.B. group because there is no agglutination of the laboratory stains of those organisms by the patient's serum. Strange, this idea that facts have a different value according as they are observed at the bedside or in the laboratory. Stranger still, the idea that one negative observation in the laboratory should, by responsible clinicians, be regarded as more important than six positive observations at the bedside. "We can never, by a single experiment, prove the non-existence of a supposed effect." If "science arises from the discovery of identity amidst diversity," then it matters not if the identity be discovered by careful observation of the patient clinically or pathologically. The whole question is, Is it a *true* identity? But this, in the last resort, depends upon the critical judgement of the observer. Granted that the exercise of judgement at the bedside is more difficult than it is in the laboratory, mistakes in judgement are not confined to the bedside. We have only to send a specimen of the same stool to two, or even to six, bacteriologists, equally expert, to find that failure to "discover identity" is by no means only a bedside difficulty. Here the question of criteria is involved, as we know, and criteria are

not always uniform even among laboratory workers. Their results are therefore, of necessity, not always comparable. Now the clinician's criteria are in general less exact than the pathologist's, nor can they be made so exact very easily; but if they are made severe, as they should be; if nothing is termed positive which is only doubtfully positive; if the clinician's judgement concerning his observations is controlled by reliable technique; if discovered identities are unequivocal: then his "facts" are as scientific and as logical as are those of the pathologist. The truth is that clear thinking, with forbearance, is essential to the satisfactory solution of a diagnostic problem, whether the contribution comes from the laboratory or from the bedside.

There is a technique of the mind as well as of the eye and of the hand, and the former is quite as essential as the latter. It is not only what you find *at* the bedside, it is also what you bring *to* the bedside. The eye sees what it takes with itself the power of seeing: it is the *mind* that sees. And surely it is the same in the laboratory? In both spheres there comes to some—slowly, painfully, towards the end (alas!)—facility born by patient practice out of time. Clinician and pathologist are more akin than they sometimes realize. Each of them takes a pride (which the other regards as excessive) in his small discoveries, and each of them lacks humility (or so the other thinks) in face of the certain fact that every day, whether it be in the ward or in the laboratory, momentous things are happening under their very eyes, yet they see them not, for they are both under the same ban—they cannot live out of their generation.

If, looking back, I can feel satisfaction with any modest effort of my own in the diagnostic field, it is in opposing the tendency of the past two decades towards the divorce of clinical from laboratory methods. In this hospital this divorce has really never occurred. Kanthack and Andrewes and Gordon and Kettle and Canti have been too wise not to see that pathological processes have a unity which centres itself in the patient, and that without careful study at the bedside only one part of these processes can be elucidated. It is the close co-operation of both observers, and this alone, that can lead to results that are helpful. We at Bart's have been fortunate in this matter, and I hasten to add that any mild strictures of mine refer not to our school but to a part of the greater world of medicine outside.

But clinical medicine in this greater world is just now coming back into its own. The prince has taken notice of the neglected charms of our modest Cinderella. A marriage is being arranged. Professors are leading her to the altar, and the name of her bridegroom is Research. There is just time for me, as an interested and loving uncle, to give the pair my blessing.

"Let me not to the marriage of true minds
Admit impediments. Love is not love
Which alters when it alteration finds,
Or bends with the remover to remove:
O, no! it is an ever fixed mark
That looks on tempests and is never shaken;
It is the star to every wandering bark,
Whose worth's unknown, although his height
be taken."

And so is resumed afresh the long line of clinical observers which has been lit by the genius of Hippocrates, of Sydenham, of Trousseau, of Osler, and of many others—masters in clinical research.

Clinical Teaching

A few words about clinical teaching before I close. Time has not led me to change my view that the best help the clinician can give his pupils during the early part of their career is to insist that they use their words carefully, exactly, and without ambiguity. Next to this, but only by means of this, he can help them to think clearly.

This is important, too, for as Thomas Hobbes said: "As men abound in copiousness of language; so they become more wise, or more mad than ordinary." I may be forgiven for repeating myself and saying that the first textbook of medicine should be Jevons's *Primer of Logic*. It costs one shilling but is worth untold gold. Note-taking must never be scamped. What is written about the facts of a case demands the same care as what is said about them. If to these things can be added a thorough drilling in methods of clinical examination we have really accomplished a great deal in the first three months. Be it never forgotten that to watch the teacher's own methods is of greater help in the earlier stages of clerking than to try and understand what he is talking about. Efforts to teach medicine, however tempting, should be resisted. The keen student will teach himself medicine if he is properly trained in these important preliminaries.

I wish something could be done to save the clerk's valuable time in the wards by introducing into the pre-clinical studies a number of examinations and methods which have really to do with anatomy and physiology. I have often dealt with this matter, but I make no excuse for referring to it again. The fundus oculi and the membrana tympani are normal anatomical structures, yet few clinical clerks have ever seen them before they enter the wards and, largely as the result of this fact, some have not seen them clearly even when they leave. We could profitably exchange the time spent over theories of colour vision and the intimate structure of the organ of Corti for these important matters. The blood cells are a part of normal histology but they have rarely been counted, or, if they have, it has only been during the demonstration of the Thoma-Zeiss pipette. The contours of the abdomen, the reflexes and tendon-jerks, a man's normal gait, the surface markings of the lungs, the deposits that may occur in urine apart from disease, the flora of the faeces in health . . . is it really economical that the time of the clinicians—and of the senior clinicians—should be taken up in teaching about these things? Mr. Dean, we have praised you, though not more than you deserve, on account of the magnificent laboratories and equipment which you have assembled on the Merchant Taylors' site. Here is another piece of work for you and your colleagues—this adjustment of the pre-clinical studies so that they conform more to the requirements of men who are going to be doctors, and valuable time may be saved for the later years of the curriculum.

Conclusion

Well, I must bid you good-bye. It has all been, in schoolboy phraseology, "great fun," and I have thoroughly enjoyed it. The clinician's material has not been confined to the patients in their beds. For there have been the clerks themselves . . . and the rest of the "firm" . . . and the nursing staff . . . and the porters whistling outside the ward, under the echoing shaft of the lift . . . and the buzzer that calls for the anaesthetist who is never there . . . and this lecture theatre. More than all this, there has been the world outside—the domestic circle, the market place, the forum. There has been the whole human comedy as seen by Shakespeare and Molière and Cervantes and the other great clinical observers. I hope I have not put too many of you, whom I have been privileged to teach, out of your stride. I trust my methods and my teaching have conformed in some measure to the great traditions of this place. But they have been largely, and of necessity, myself—

"ay, there's the rub."

So now I doff my ward coat and hand it to you, Evans, my friend. Gow and you have been loyal, inspiring, and very charitable colleagues, and I tender you my most sincere thanks. God bless you, and God help you!