IDEALS IN MEDICAL EDUCATION.

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"Is it any depreciation of the great military geniuses of the past to say that, if suddenly plunged into the midst of a modern engagement, they would be worse than worthless, that, without the requisite knowledge and experience, their genius would be useless? Yet do we not desiderate that same genius for our own leaders, without which all their knowledge and experience are of no avail?"

"An idealist is not necessarily a fool. He sees further, though more dimly, than the practical man, who calculates on inductions from the past, and on the presumption that no new factor will intervene. Yet what he sees may be true."

The above passages are taken from the closing chapters of the last book,¹ written almost upon his deathbed, of one of the greatest modern apologists that the Catholic Church has ever produced. His life and work furnish an outstanding example of the most persistent and selfless endeavour to discover and express that synthesis of life which has been the dream of all philosophy from the time of Plato and Aristotle to the present day. It was his own admission that the results did not seem very harmonious, and yet the failure, almost inevitable, to reconcile the ever apparent discrepancy between theory and practice left him undeterred. During a recent review of his writings the example of the author inspired me to consider this discrepancy as it appears in the science and art of Medicine, in the hope that, by criticism of the present

system, I might contribute something of value to the problem of medical education as it exists to-day.

To the student of human nature in any school two types are obvious and can be recognized among teachers and pupils alike. They may be described roughly as the theorist and the practical man. This distinction can be traced throughout the story of human life in all its phases, and nowhere is it more apparent than in the history of medicine from the earliest times. It is interesting to study the development of medical thought from the time of Hippocrates to the end of say the third century, side by side with the history of our own day. The dogmatists of Galen's time seem to have made an endeavour to found some sort of scientific system of medicine, while yet keeping touch with philosophy, an attitude apparent, not only in the later Renaissance period of medicine, but again in our own era, among those rare poets of the healing art who, in the spirit of the great theologian I have quoted, seek to find that link between the clinical and the laboratory aspects of our work which should be the goal and ideal of every student to whom the following of Æsculapius is a true vocation.

I hope I may be pardoned for these somewhat academic observations, which may at first seem out of place in a journal devoted for the most part to practical therapeutics, and intended mainly for those whose labours are in the field of workaday medicine or surgery, and who have little time for speculative reading. And yet it is precisely the discursiveness of this essay which is its chief apology, for it is through such philosophic considerations as these that I have been led to criticize the whole scheme of medical education of to-day, and to ask myself how far the present system justifies itself by the achievement of what are, or should be, its main objects.

The criterion of success in any particular educational system must, I think, be two-

¹ "Christianity at the Cross Roads." By Fr. George Tyrrell, S.J. Longmans, Green and Co. 1910.

fold. Firstly, how far and how truly does it represent the ideal after which the human mind inevitably strives in its intuitive search for abstract truth; secondly, how far do its results form a real solution of the practical needs of mankind, as human experience has dictated them. From this standpoint the aim of every undergraduate medical school should be to turn out men well-grounded in those principles of scientific truth upon which all rational medicine must ultimately rest, yet not deaf to the everyday lessons of practical experience of which they cannot always explain the rationale.

In such words, I believe, may be expressed the first and most general of those ideals of medical education which it is the object of this paper to discuss. The increasing departmentalism of medicine, inevitable in an age in which improvement of technique is necessarily more and more in demand, is adding year by year to the burden of an already lengthy curriculum, and one of the disadvantages of modern specialism, for which the present educational system is partly to blame, is the loss, to some extent, of that sense of proportion essential to the greatest practical success in the art of healing. I should be the last to decry the value of true research, or to suggest that in the teaching schools the student should not be trained to make his treatment of disease as rational as possible, but I cannot help feeling that many of the so-called scientific physicians of to-day are apt to be so dazzled by the lights of the laboratory that they cannot perceive that dimmer vision of disease in which the truth is sometimes reflected in the minds of those more speculative clinicians who labour so patiently under the reproach which modern teaching levels at empiricism. This is but a warning against one extreme towards which I think the present system tends. In all human achievement we find genius of two main types, that of the pure student and that of the man of action, and in the study of medicine, as in every other branch of learning, the tem-

perament of each individual must determine to a large extent the main channel through which his knowledge is acquired and imparted. Nevertheless, the ideal for both pupil and teacher should be the synthesis of theoretical and practical aspects of disease, and he who would realize it must read the inscription "*Ne quid nimis*" upon the doors alike of the laboratory and of the hospital ward.

I have spoken of the present system of teaching in a manner which, to say the least of it, implies dissatisfaction, and I feel already that what has been said, especially in regard to research, may invite the sarcasm of more than one teacher of scientific medicine, better known and perhaps better equipped than myself. All the same it is good for educational authorities to take stock of their position, and for doctors of all sorts to see themselves, if they can, through the eyes of their public, whose present-day scepticism in regard to authority does not stop short of the medical profession. The idea that the individual patient rather than the disease is the object of treatment, is, unfortunately, one of the last conceptions engendered in the mind of the hospital student by the atmosphere of the average medical school, yet this should be one of the very first principles of the system of training. It will, of course, be objected that the foundation of all therapeutics is the study of anatomy and pathology, and that, in view of the need for economy of time, these cardinal subjects, which are necessarily of an impersonal character, must occupy the chief place in the general curriculum. This is, of course, a truism, but, having regard to the chief function of medical schools, which is to train men for actual practice, I still feel convinced that teachers of the younger generation lack some of that relative sense of values which was so much more conspicuous in the leaders of the profession during the middle of the last century. The student draws much of his inspiration from the personality of his chiefs, and I have

always felt, *laudator temporis acti*, that, in comparison with many of the modern professors, those who taught medicine in the days when science was in its cradle, though they knew less of disease, knew far more about the management of sick people!

The psychological factor in diagnosis and treatment, which every practitioner learns to value more as he grows older, should occupy a more important place in routine clinical teaching. As it is, except in the special departments, it tends almost to be discouraged. Insufficient stress is laid on the importance of case-taking, and it is left to the individual to discover by his own intuition later on, amid the exigencies of practice, the real value of a detailed and carefully taken history. How many of us recognize the cloak of symptoms under which the patient in our consulting room frequently conceals the real trouble which is the *raison d'être* of his visit? Such considerations should be inherent in every branch of clinical study, and while I recognize that psychological perception and the observation of human nature, which are the soul of medical practice, are not to be taught alphabetically, I would urge as an ideal that more of their atmosphere should pervade the teaching of those who claim to prepare the raw recruits of the profession.

Co-operation between different departments is an ideal which, though insisted upon loudly enough in theory, is too often ignored in actual practice. Hardly a book is published to-day on any recent pathological or chemical methods of investigation without a sententious preface setting forth the importance of interpreting the value of such tests only in connection with the results of clinical observation; yet how often do clinician and pathologist actually meet in the wards in consultation? The same may be said of radiology in relation to clinical findings. Everyone admits the truth of such contentions, and yet co-operation as an integral part of the discipline of hospital training is not enforced as it should and

could be, were there the will to insist upon it.

Arising out of this there occurs to my mind the question of the respective spheres of the physician and the surgeon in the treatment of various common organic diseases, a question which from time to time is discussed in the journals and debating societies in connection with some subject of current interest, and which is a time-honoured source of much good-humoured chaff between colleagues on opposite sides. A good deal of genuine misunderstanding which sometimes lurks behind all this might, perhaps, be avoided, if greater emphasis were laid both in the wards and in the lecture-room upon the essential difference between a surgeon and an operator. It is, to my mind, something of a reproach to the medical schools that the art of Surgery should so often be personified, as it undoubtedly is to many senior students and residents, by an individual whose only real claim to superiority lies in the excellence of his operative technique. I mean, of course, no offence to my confrères on the opposite side, but here, I think, is one of the most serious defects in the atmosphere of the schools, the remedy for which lies in a wider and more ideal conception of the real meaning of Surgery in the highest and most inclusive sense of the word.

One other detail is worthy of mention, not only for its practical importance in the ordinary routine of medical diagnosis, but also because of its relation to that sense of values to which I have already alluded as an essential part of the equipment of the well-trained medical mind. So few students appear to have an adequate idea of the normal standard in relation to the various pathological conditions which they are called upon to observe, at least so far as clinical study is concerned. This is a serious disadvantage and implies a defect in training. In the course of my own experience as a teacher I have been struck with the fact that the difficulty felt by many men in the

recognition of physical signs of disease is not infrequently due to their ignorance or imperfect knowledge of the corresponding healthy standard. I remember once requesting two students to give their opinions on the condition of the heart in a certain patient, telling them that some doubt had been expressed as to its efficiency, and asking them to suppose that the patient in question was a candidate for a life insurance policy. The resulting verdicts were rather alarming. The initial dismay of these gentlemen on being informed that the patient had been selected for their examination on account of his normal and healthy cardio-vascular system was succeeded by expressions of some satisfaction at the practical value of the lesson which, they admitted, was outside their usual experience of hospital teaching. I mention this little incident only as an example of method. No one who ever attended the late Dr. Ritchie's post-mortem demonstrations in Oxford can forget the value of his method as a teacher or the force of his well-known and invariable question: "How does it differ from the normal?" It is a pity that greater prominence is not given to this principle in the teaching of clinical medicine.

So much for that aspect of medical training which deals with the purely professional side of the subject, but what is to be said of those ethical questions which concern us no less than members of any other profession, and which must at times occur to those who are in any way interested in educational problems? The doctor, like every other man in close contact with the affairs of this life, has two sides to his character, the purely professional and the human. For many practical purposes the two must be separated, and yet both are integral parts of one personality in which again the same apparently unattainable combination must inevitably be sought and made to express itself in some wise by those whose ideal is to see Life steadily and to see it whole. We are accustomed to speak of a business and a

professional career respectively as if these two modes of human activity were necessarily antithetical. I must confess that this seems to me an erroneous idea, and I hope I shall not be suspected of any disrespect for the traditional standard of medical ethics if I suggest that the distinction is an artificial one, which is not inherent in the nature of things, and which would occupy no place in the mind of those Utopian and impossible characters the development of which I have so imperfectly endeavoured to sketch. The trouble is the old story of the artist and his bread and butter, but to him who seeks to combine idealism with practical efficiency it seems intolerable that a commercial instinct and a genuine love of one's Art, both of which are, after all, products of that human consciousness which is a part of Creation, should in practice cause such discordant and unpleasing effects as the result of honest attempts to blend them in due proportion in the desire to attain an efficiency which is, however, only to be found, I suppose, in the Superman. In almost every inaugural address at the beginning of a new session the speaker is accustomed to impress upon his hearers, in more or less well-chosen words, the dignity of the high calling in which they are about to begin their careers, and to point the appropriate moral in regard to those who make the profession of Medicine a mere opportunity for sordid material advancement. It is well indeed that this truth should be told, and on such fitting occasions, but I have sometimes felt that I could admire the courage of a lecturer who, without any dereliction of professional standards, was man of the world enough to insist that commercialism is but another word for the abuse of what is, after all, a natural ability of the human mind to perceive and appreciate certain important values, and who would dare to suggest that a certain amount of attention to this side of medical affairs might well add to efficiency, and at the same time help to acquit the profession of that reputation for want of

system and general muddle-headedness in business matters for which doctors, as a class, are almost a by-word.

I feel that I must offer some apology for these disconnected musings which have been rather hurriedly put on paper in response to an appeal at short notice for a contribution. They are but a poor substitute for the finished dissertation which the title demands, nor can they pretend to give more than the faintest impression of the many dreams and aspirations, in which, in common with others who cherish the honour of our profession, I have ventured in moments of speculation to indulge. Medicine, in whatsoever aspect it is approached, is indeed a vocation, and those who seek through its profession to discover the philosopher's goal are apt to find it a pathway in which, if I may be permitted a paradox, "many are chosen but few are called." It is, perhaps, impossible to analyse the various motives, worthy or unworthy, which induce men to join the ranks. Here it can only be said that they are numerous, and that of all who enter the medical schools year by year the number of those who are truly inspired by the love of the Art for its own sake is probably small. It is to such as these that the vision of ideals will appear with the most alluring light. To them will the counter-calls of Science and Philosophy make their strongest appeal. It is they who, in the unharmonious search for that synthesis of knowledge which is the dream of their lives, will suffer, like poor Tyrrell, that pain of disappointment which is reserved only for those strong yet gentle spirits who are the very salt of the earth, and who, after the manner of all their kind, remain faithful unto death. The ideals of Medicine are like that true romance which is indeed the veil between the law of the universe and man's infirmity.

"Thy face is far from this our war,
Our call and counter-cry,
I shall not find Thee quick and kind,
Nor know Thee till I die.

Enough for me in dreams to see
And touch Thy garment's hem;
Thy feet have trod so near to God,
I may not follow them."

Nevertheless the attempt should be made, and those who have philosophy enough to begin and to continue their medical career in this spirit will not only contribute all the more to the treasures of human thought, but will find in their profession the greatest romance that this life can offer them.

CALCIUM METABOLISM AND TREATMENT.

A CLINICAL POST-GRADUATE LECTURE AT THE ROYAL
WATERLOO HOSPITAL.

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DURING the past ten years, an enormous amount of work has been done on the subject of calcium metabolism; it will, however, be the object of this lecture not to dwell on the physiological aspect so much as on the therapeutic aspect of calcium.

Calcium is a normal constituent of all the tissues of the body and of course forms the basis of the skeleton.

If patients are fed on calcium deficient diets—the calcium content of the bones is lowered (Vines), while, as Rost has pointed out, very prolonged administration of calcium by mouth may increase the calcium content of the bones; this fact has not, however, been confirmed by other workers such as Korenchevsky, and in the light of clinical experience I think must remain open to doubt.

I have never succeeded in raising the blood calcium of any patient by the oral administration of calcium, and the experi-