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Education in the Medical Sciences

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Abstract

I have recently asked the 4th year medical students, in a questionnaire, a number of questions about the course in Pharmacology which they are about to complete. The answers have made fascinating reading and have brought into focus many of the vague feelings about medical education that have been in the back of my mind for some time.

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EDUCATION IN THE MEDICAL SCIENCES

By Professor W. L. M. PERRY, O.B.E., M.D., D.Sc.

I have recently asked the 4th year medical students, in a questionnaire, a number of questions about the course in Pharmacology which they are about to complete. The answers have made fascinating reading and have brought into focus many of the vague feelings about medical education that have been in the back of my mind for some time.

There are a few general conclusions that one can draw from the collective views of medical students surveyed in such a way. Perhaps the most striking is the singular absence of any degree of unanimity. It may be taken as virtually certain that any topic, treated in any one way, taught by any one method and by any one person, will please one third of the class, displease another third, and leave the rest absolutely cold; it will interest one half of the class, the other half finding it dull; one half, composed of quite different students, will consider it useful, the other half useless. This is a slight oversimplification for occasionally there is a concensus of opinion so that sometimes even 80% of the class will agree. By and large, however, one is left with the doubtfully comforting reflection that one can never please more than about half of one's audience; and that, therefore, to select what to teach and the way in which to teach it on the basis of one's own experience and opinion is just as likely to be acceptable as to take a great deal of time and trouble trying to design a course to suit the views of anyone else student or otherwise. Perhaps the teacher does know best after all!

If this is the most striking finding the most surprising one, to me at least, is the clearly expressed view that students do not expect to enjoy the course. They seem to have a great desire to mortify the flesh. Thus 9 out of 10 students think that writing essays is a valuable way of learning, but less than half enjoy writing them. Again, 2 out of 3 students enjoy lectures that provide the experimental evidence for important conclusions but only 1 in 4 considers that lectures should usually aim to provide this. On the other hand there is considerable evidence that students find lectures that provide a summary of the important facts that are needed for examination purposes dull and boring; but that this is what they think that lectures should usually do. This is a view that I find quite extraordinary and that disturbs me very much. Learning should be fun, and boredom can never induce intellectual agility. Something has gone far wrong.

Perhaps there is a clue as to what is wrong in another piece of evidence from the questionnaire. While there is, in general, little correlation between the opinion of students and their previous academic record, there is a very high correlation between this past record and their habits of attendance at lectures. Thus 9 out of 10 students who had never failed a degree examination stated that they attended lectures regularly; while 4 out of 10 students who had already had to repeat at least one year of study stated that they attended

fewer than 50% of the lectures. Does this indicate that it is only by sitting through lectures in a state of total boredom, laboriously copying down the material provided, that students can pass examinations? Is this why, after four years of medical education, intelligent students can seriously opt for boredom? This is a desperately serious matter.

I believe that the vast majority of students entering the medical school are full of enthusiasm for their future career, anxious to learn about medicine and ready to put a large part of their youthful energy and effort into their studies. Why has all this been lost after four years? In these four years the whole of the scientific basis upon which clinical practice is based has been covered by the syllabus. Each of the scientific disciplines has an important part to play. Each can be exciting, fascinating, stimulating. Each has students of the Faculty of Science who find excitement, fascination, stimulation. Apparently medical students are different.

The fundamental fault lies, I believe, in the fact that neither the students nor the teachers have a really clear idea of what they are trying to do. Let us consider the students first.

Medical students are all going to be "doctors". This does not define their academic aim in any way at all. In the minds of most students it is associated not with academic education, but with the glamour of clinical work, the human relationships with patients and the idea of social service. It is consequently related only very vaguely to the rigorous disciplines of the medical sciences. These are regarded as the background, often accepted as necessary only with reluctance, to a clinical training. Modern clinicians are aware of, and often very vocal about, the fact that the medical sciences are no longer the background but are much more often the main feature of the clinical picture, but it seems to be very hard for the student to accept this. In consequence the acquisition of the background is not generally regarded as an activity that demands the whole of his energy and attention, which are held in reserve for his "vocation", the care of patients. I am very far from sneering at this view; it is wholly admirable when considered in a moral or ethical context. I do believe that, however admirable, it is based upon a total misconception of the nature of patient care today. The natural result of all this is that the medical sciences come to be regarded as academic obstacles placed in the path of the aspiring doctor by an unsympathetic faculty which is far too scientifically-minded. This engenders the state of mind with which we are all familiar and which is common to medical schools all over the country; a state of mind which rebels at any demand for intellectual effort in science, and which asks only to be told what information must be memorised to pass an examination and how such information is applicable to a clinical situation.

I think this is a pretty fair description of the attitude of many a medical student. What he is trying to do is simply to pass the professional examinations and "to get on with clinical work". He has little idea of what his teachers are trying to do. Let us look at them for a moment and see if they know themselves.

It may be taken as axiomatic that all teachers are fascinated by their own subject. If they were not, they would have a miserable time spending all their lives immersed in it; and if they are not, they have no business to be teaching it. Fascination by a subject induces a state of mind in which the greatest possible reward is the feeling that some of the fascination has been passed on to others. All teachers want to catch and hold the imagination of their audience, to stimulate in their students a real interest in the subject.

When teaching an advanced group of students who have elected to make a career in the subject the teacher has little difficulty in establishing a rapport. There is a mutual understanding, a unity of purpose, a communion of scholarship. This explains the attraction of teaching Honours classes in the Faculties of Arts and Science. Teachers of medical students want to achieve something of this too.

Teachers of medical science who, like myself, have qualified in medicine and practised medicine, are, no doubt, a strange bunch. I think that the main reason for our leaving the clinical field is that we found it unsatisfying. The lack of real knowledge, the authoritarian basis of much practice, the routine and unquestioning use of accepted treatment were not, to us, adequately compensated by the human relationships and the social service. These valuable rewards do, in fact, compensate most doctors, and it is just as well that they do. For those whom they don't, the search for answers to the questions provides the only satisfaction. Where such people are teachers, they are acutely aware, from their own experience, that there are still many unanswered clinical questions, and many more to which an answer can be provided only by their own scientific discipline. They know that their students are going to feel, to some extent, the lack of satisfaction they themselves felt in the past. So they naturally wish that they could persuade students that an investment of more energy and attention to the medical sciences would be repayed many times over in a fuller and more satisfying clinical experience in later years.

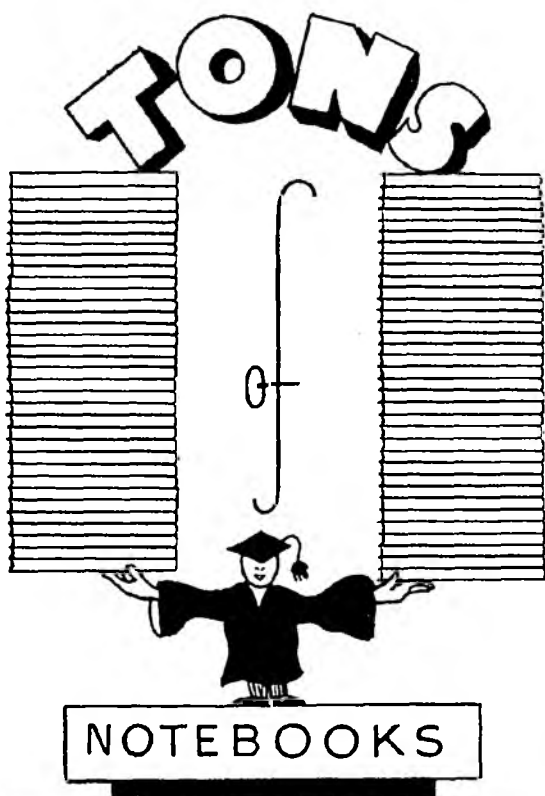
The fact remains that, despite this, such teachers cannot help being aware of the prevailing attitude of medical students to which I have already drawn attention. Thus the teacher cannot easily accept the single aim of stimulating in the student an interest in his subject. He tends to lower his sights, to accept a new and lower aim, namely that of providing as quickly and as painlessly as possible the background that the student needs. As soon as he does this his courses provide, quite intentionally, summaries of basic established factual information; they become routine, stereotyped. The teacher has no real interest in what he is saying and the student is quick to sense this. There is a total loss of stimulation and a spreading boredom with the whole business. The student, when he encounters this, is reinforced in his belief that all he is doing is going through the preliminary movements before starting the dance in the clinical years. The vicious circle is thus established.

When this situation is discerned great efforts are made to explain and justify it. Students, it is said, are of too low a quality to benefit from a more rigorous intellectual approach; we are training general practitioners and why should they be burdened with the recondite in science; medicine is a technical training not a scientific education; students must not be over-burdened in the early years of a long six year course, they must have a chance to sow their wild oats. These are the pleadings of defeated teachers and find an echo in disillusioned students who use them to excuse their own boredom.

It is, of course, nonsense to accept these excuses. The average medical student is carefully selected for his intelligence. His abilities do not deteriorate; they are never tapped. He is capable of far more than he ever produces. He could well accept the intellectual challenges that are so seldom offered. Modern medicine requires a scientific education, not a memory for some basic scientific facts. Students will always find time to sow wild oats.

But even if we accept all this, we still have to break out of the vicious circle that has been established, and this looks like being very difficult. Teachers cannot do it by themselves. This is what disturbs me on examining the questionnaire replies. We tried last year in Pharmacology to offer some food for intellectual thought, something more than a bare recital of essential information. It seems that we did achieve some stimulation of interest, but this was regarded as a luxury by the students, a luxury that they could not afford. Education is rejected in favour of the acquisition of facts.

Are we to accept this student opinion and provide what is wanted, however dull? Or are we to go on despite unpopularity, providing interest at the expense of increasing difficulty, increasing demand for intellectual effort, increasing deviation from matters of obvious practical clinical application? I believe that we must go on. We must continue to challenge the student, to try to shatter the mental torpor that the system has induced in him. Sooner or later he will react and between us we can break the circle that binds us to the present unsatisfactory position. The curriculum may need changing; but it is not the curriculum that finally determines the state of education, it is the attitudes of student and teacher that are paramount.



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