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MEDICAL EDUCATION IN SOUTH AFRICA OVER THE PAST FIFTY YEARS

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The physician of the middle ages, if he was a man of merit, was not a physician only. He was also a philosopher, a mathematician, and an astronomer. He was a Latin scholar too if not always versed in Greek. All learning was his province or, as it used to be said, nothing of human interest was foreign to him. At the turn of the century and even up to the time of the First World War the sum total of medical knowledge was not beyond the capacity of the scholarly medical man. Men like Osler could at the same time hold their own in other scholarly circles.

But today the corpus of medical knowledge has become so enormous that no man can master it all. This brings us to one of the major medical educational problems of today: What is to be taught to undergraduates and what is to be left out? Even 50 years ago teachers used to say that, obviously, they could not teach the whole of medicine. But the problem was easily manageable then.

Medicine has not merely grown in bulk. It has also changed its complexion. There is a much better understanding of physiological and pathological processes. This in turn necessitates, among other things, a better grasp of the newer chemistry and physics of today. Mathematics has become a necessity. And when we add that of all people a doctor needs to understand man and his ways, then it is clear that the humanities cannot be neglected. The fact of the matter is that we have not altogether avoided the error of allowing the medical curriculum to grow by accretion and to become congested. It is a matter of interest that 'how to teach?' did not greatly exercise the minds of the teachers of medicine in the days we are speaking of. Today it is a problem recognized to be second in magnitude only to the one already mentioned. The pressing need for studying these two problems has found expression in several international congresses of medical education. The complexity of the difficulties is demonstrated by the failure to evolve a course of study which all could agree on and put into operation. (The fact is that nobody expected that to happen.) The congresses served the useful purpose of making it possible to exchange and discuss views and experiences.

Teaching Systems

There are in existence a variety of teaching systems, each with its own advantages, and some applicable best to the circumstances of their individual centres. It would be naïve to ask: Why not be eclectic and pick out all that is good from the many existing curricula and methods, and then put forward valuable suggestions? It is a matter of the greatest difficulty for an established school with its tried system in operation (and with its own individual merits) to introduce radical changes. There is no university course so intricately complicated and made up of so many parts as the medical course. That is not to say that changes have not been made everywhere. There is no medical school which has not introduced improvements in medical teaching. This certainly applies to our South African schools.

Some suggestions to meet the difficulties of so many parts and so great a content in each, especially of the major disciplines, have been to excise and to eliminate ruthlessly. It has been seriously mooted from certain quarters that because what is needed is education and not instruction, and because it is method that is important and not facts—that in a subject like medicine it is not necessary to teach systematically the cardiovascular system, the central nervous system, etc. but only one of them, and that the method applying to one can stand for all. This is what one educationist has said, and we should all agree: 'Memorizing and reproducing factual data should not be allowed to interfere with the primary need for fostering the critical study of principles and the development of independent thought'. But there are facts to be learned—not all the facts can be worked out from first principles—and there are techniques to be learned, not only in surgery, but also in the ordinary examination of a patient. Most of us will agree that in approaching the patient as a 'whole' the 'parts' should not be neglected; especially not the psychological side of his personality.

Clinical Teaching in South Africa

How have we fared in this respect in South Africa? Clinical teaching has been in existence in the Union for barely 40 years. The pre-clinical sciences and anatomy and physiology had been taught before, and in the best tradition. In clinical teaching we have in South Africa, for obvious reasons, followed broadly the Scottish system of medical education. This, as everyone knows, is in a number of essentials very different from that of the London medical schools. In the best American schools the ratio of staff to students is so favourable that it is possible for the clinical students to be incorporated into the different firms or units, practically as junior interns. The two great merits of a system such as this are that the student has duties and responsibilities and that he is virtually an apprentice. In schools like Harvard each undergraduate engages in a research project. A distinctive aspect of the system which prevails in the London medical schools is the full-time engagement of the student in successive departments. But it can be said without fear of contradiction that more important by far than any specific system is the *attitude* of the teachers and the attitude they inculcate in their students.

There have been fundamental changes in teaching in South African medical schools during the past 40 years. There have been changes in content, changes in methods, and such basic changes as the introduction of research—which was non-existent in the clinical years—and the introduction of postgraduate training on a large scale. With the coming into being of what is called the Joint Scheme (i.e.

joint control of medical education by the university and the Provincial Administration) there has been a manifold increase in teaching staffs, whilst at the same time the size of clinical classes was reduced to manageable proportions. A tutorial class today consists of but half a dozen students. The considerable increase in the full-time staff, the institution of a system of numerous full-time registrars, and the installation of a sizable body of technicians have made research possible.

It will be remembered that at one time, after World War II, there were 160 or more students in each class. A clinical professor (we had 2 in medicine in Cape Town) had no more than one full-time assistant. There were several tutors, but the number of students in the sections allotted to each was far too numerous. The 'honoraries' in charge of the beds were clinical lecturers. It was no fault of theirs, but attributable to the system, that their classes were grossly overcrowded, with too little time allotted for clinical lectures and ward rounds which took place on the same afternoon on which they visited the hospital. These men laboured under great disadvantages. They had no full-time staff other than their recently qualified house physicians. They were assisted in the wards by registrars who held part-time appointments. It says a great deal for the teaching of those days that the results were as good as they were—because good they were. If there was a good deal of memorizing of factual data there was not lacking a properly critical and enquiring attitude of mind. Principles were stressed; independent thought was not crushed. At a time, for instance, when the pharmacopœia contained but a few specific and effective remedies there was as sane an approach to medication as anywhere in the world.

Changes in Teaching Methods

There have been definite changes in teaching methods, the main advances having taken place in the direction of coordination. It cannot be said that we have gone anything like far enough, but there has been a gradual increase in conferences, seminars and small-group teaching activities. There has been talk of getting final-year students attached for periods to practising general practitioners. In the school that I know best the students in their final year of study have each, for periods, what may be looked on as a small practice, i.e. 6 or 8 patients in respect of whom they have, at set periods, the benefit of members of the staff in consultation. The fact that this kind of 'practice' carries no responsibilities must be admitted straight away to be a defect.

A pre-clinical year which is more or less identical with that designed for science students is surely inappropriate. We have attempted practically no integration in the anatomy and physiology courses. The physiology students now get some demonstrations on clinical cases. Pathology is no longer taught as an isolated study. The present system—clearly a better scheme—is so designed that the student, after his introduction to pathology in the third year of study, is able to learn the pathology of the cases he encounters in the wards in which he is working. The staff is not yet large enough for this scheme to have matured.

What must be greatly helpful for the student commencing his clinical studies is the course in introductory medicine. The medical student of not so many years ago had the following confusing initiation. He was confronted with the lectures in medicine which started, understandably, with the fevers, which were nicely rounded-off diseases, of known causation and method of infection, running well-observed clinical courses and having easy methods of diagnosis. At the same time, however, his tutorial began—again for sound reasons—with the cardiovascular system (a field permitting of easy and precise demonstration of physical signs and clinical methods); and his case for clerking could easily have been one of essentially hepatic or renal disease. Today all this is preceded in the second half of the third year of study by an introductory course of medicine consisting of the bare bones of the different groups of disease, with demonstrations. The student is no longer lost when he enters the medical wards. There is also a course of psychology leading to a realistic course of psychiatry. Gone are the days when psychiatry was equated with the psychoses. The value of social medicine is indicated by the presence on the staff of a senior lecturer in that discipline.

Older graduates will probably remember that the only lantern slides ever shown in lectures were those of some endocrine cases. Today no lecture is without its slides—of cases, specimens, graphs, tables, and in colour.

To round off the 6 years of formal training there is today the excellent system of compulsory internship.