Some Thoughts on Medical Education

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I have accepted the gracious invitation to write this paper because I wish to support the editors of the Dalhousie Medical Journal and because I believe that students have a right to ask their teachers for statements of belief and principle, and receive answers. I also believe that education is the single most important problem of our age and should be seriously considered and discussed by every thinking human being. Education involves the acquisition and distribution of knowledge concerning our world and its people, including their mutual problems and potentialities. Socrates said that knowledge is the greatest good and that the highest knowledge is the knowledge of God. I believe that this concept, in the broad sense which he implied, has not been improved upon as a way of life. The acquisition and distribution of knowledge must always be a two-way process with teacher and pupil advancing together—each to a higher stage of learning. I do not yet presume to write for my graduate colleagues, many of whom have far greater talents, knowledge and experience than I in the various aspects of medicine—its study, practice, education, economics and administration.

Is medical education really so important? I believe it follows in importance general public and high school education and the education of schoolteachers. It equals the general sciences and the humanities in scope and in depth of inquiry and experience—but perhaps not in overall importance. This argument, like many others, cannot yet be resolved, but it can be studied further. Because the quality of medical services depends to a very large degree on the knowledge and integrity of a small segment of society, critical thinkers are looking deeply into our professional development and practice. Whether or not physicians' services are as important to society as society claims, the fact remains that these services are greatly desired, even demanded—and they are still highly saleable.

Pain, inability to function normally and sudden changes in well-being fill men with fear and they consult physicians for relief. Very often nature's own adjustments and defences come into play and the physician receives honor where little is due. Time after time eradication of one scourge has led to the upsweep of another. The highest human expressions of observation, analysis and abstract thought have let us dissect the heart of the atom—and we now nightly retire with its annihilating power cocked over our heads and those of our fellow men. Well might the disinterested and cynical ask if our efforts are worthwhile. However, I believe that the acquisition of knowledge is its own reward and an end in itself—perhaps of evolutionary necessity. I believe that you and your more advanced colleagues study the theory and practice of medicine for good and sufficient reasons and are well motivated therein. This you will say is vague—but I challenge each of you to give specific and indisputable reasons for any of mankind's (or your own) best efforts. Curiosity, ambition, service and power are rarely single or even prime in their applications. Further I believe that your fellow men desire and need your best services and are ready and willing to buy them at a price which is reasonable and proper. All of the foregoing I advance as reasonable motives for the promotion of medical education.

The first responsibility of medical education is to produce competent applied human biologists—students of the structure, function and dysfunction of man. Man must be studied and served as an individual and as a member of various groups—small and large. The good physician must have learned to examine the cell, the organ, the integrated organism and its personality. He must continually strive to analyze alterations of function and accurately correct, remove or adjust pathological processes.

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To be successful he need not be cultured, moral, sympathetic or even tolerant. These highly desirable traits cannot be taught in university except by example and association. Rather, they are the product of the home, school, church and community at large. It is unreasonable and reactionary to claim for physicians—or expect from them—social and moral principles not practiced by their fellow men. Likewise physicians can no longer deny the fact that rapid social changes are claiming their services as basic human rights. Some of you in the not-too-distant future will sit across the table from politicians, labor leaders, insurance executives and some of your own colleagues, to negotiate the sale and purchase of these services. In the long run, only your initiative and positive contributions can promote the welfare of your cause.

Medical education requires a sound public and high school training. From high school on, the study of medicine might progress in four stages:
(1) The student must be thoroughly grounded in the natural sciences of mathematics, physics, chemistry and biology. These are the tools used in the study of living creatures and their relationships with their environment.
(2) He must become proficient in the science of human biology. Physiology, anatomy, biochemistry, pharmacology, microbiology, general pathology and the ability to measure and analyze biological data could be learned at this stage. Here the student might also acquire familiarity with psychology and sociology. At this point the student might go on to a doctorate in a medical science or clinical medicine.
(3) The future physician now must enter his clinical years and his time should be spent close to the patient and the clinical laboratory. Clinical methods may be readily studied and practiced at the bedside under the guidance of more advanced colleagues with varying degrees of special training. He must become proficient not only in general medicine and surgery, but also in the various sub-specialties. Special pathology may now be correlated with clinical problems through the close association of laboratory and clinical services. Here also a preceptorship might acquaint the student with medicine in the community—its rewards as well as its problems. At the end of this period the student graduates as a physician and is licensed by law to practice general medicine.
(4) The physician now must begin his professional career. Whether he practices as a family physician or becomes more expert in some narrower aspect of medicine, he must continue to develop professionally or fall backward to a level below that of his graduation. Just as undergraduate clinical training is based on graded participation and responsibility, so must continuing training involve participation in the actual investigation and treatment of disease under the guidance of more experienced colleagues. Here again, student and teacher educate each other.

Medicine is learned from the written word, the laboratory and the patient. The discussion group, the clinical conference and the written theme help to promote the clarity of thought and expression which is vital to the accurate analysis of large amounts of clinical data, much of which may be irrelevant.

I have not stressed the comprehensive biological experiment, the critical review of a clinical subject or even the humanities courses which are required of undergraduates in some medical schools. This is so, not because I underestimate their value, but because there is so little time. The eight or nine years, (preferably of eleven months each) will still be crowded with obligatory theory and practice. Furthermore, one cannot promote curiosity or culture by curriculum.

To summarize: Medical education is of the highest importance. It plays an ever-increasing role in the advance of general scientific and social knowledge. Its teachers and students must first of all be competent applied human biologists. Their social conscience can be no higher than that of their fellow citizens. The progress which medicine will make in the future will depend only upon the positive social and scientific contributions of all its students.