TRAINING OF OUR DOCTORS

THE UNDERGRADUATE
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Mr Chairman, Distinguished guests, Ladies and Gentlemen:

I wish to begin my talk with this passage from "Alice in Wonderland", which also formed the preamble to the "Report and Recommendations of the Curriculum Review Sub-Committee" of the Faculty of Medicine, published in August 1980:

"Would you tell me, please, which way I ought to go from here?" Alice asked.

"That depends a good deal on where you want to go," said the cat.

"I don't care where...." said Alice.

"Then it doesn't matter which way you go," said the cat.

".....so long as I get somewhere," Alice added as an explanation.

"Oh, you're sure to do that," said the cat, "if you only walk long enough."

We, as medical educationists, must not be plagued with Alice's dilemma. To quote Abraham Lincoln, "If we could first know *where* we are, and *whither* we are tending, we could then better judge *what* to do, and *how* to do it".

The ultimate goal of medical education is to provide for excellence in the care of the sick and to enhance the quality of life by the promotion and preservation of health. Therefore, the major obligation of a medical school should be to provide the most effective and efficient training for the student so that he can

contribute maximally toward this goal. This statement applies generally to all medical schools. However, in a particular community, the peculiar needs of the community will determine the roles the medical graduates are expected to play in order to achieve the stated goal. These roles would therefore serve as guidelines in defining the type of end-product the medical school should aim for, and therefore in the structuring of the curriculum.

Singapore has been undergoing spectacular social and economic changes over the past two to three decades. From the health angle, these changes are reflected in an improvement in the general health of the population, a different pattern of health and disease in the population, and a different pattern of health care delivery. The training of medical undergraduates has therefore to take into consideration all these progressive changes, so that the end-product of the medical education (i.e. the qualified doctor) can best serve the community. The medical school, therefore, taking cognizance of the constantly progressing societal evolution, has to come up with a clear definition of what is the desired end-product for Singapore. Once the desired end-product has been clearly defined, a more meaningful and relevant curriculum can be structured.

In analysing the curricula of medical schools in general over the last three decades or so, one can perceive that there have been two trends of change which have been steadily progressive, and these changes have been based on the concept of relevance of the curriculum, i.e. how relevant is the teaching to the actual role the end-product has to play after graduation? One of the two trends is the gradual reduction in the number of hours spent on practical work in the basic sciences in the pre-clinical years. For instance, it is no more considered fruitful for students to spend long tedious hours in the dissecting room, dissecting through tiny nerves, blood vessels, etc.; it is unanimously agreed that the amount of gross anatomy learnt relative to the endless hours spent is most dismal. In fact, in some schools, such as the Royal Free Hospital Medical School of the University of London, students do not engage any more in dissections; rather, they learn their gross anatomy by studying well-prepared prosected cadavers and specimens, and with the help of audiovisual aids. Likewise, in Physiology, long gone were the days when students had to spend long-drawn hours making and charting smoked drums in physiology experiments. With the time saved by reducing the practical work hours in basic sciences, the teaching of behavioural and social sciences has been introduced into the pre-clinical years in many medical schools. However, the scientific content of the preclinical course must not suffer on account of the inclusion of these newer subjects. In fact, it has been getting more and more obvious over the years that a good grounding in the basic sciences is vital to the practice of good clinical medicine. After all, it is this accent on scientific training which distinguishes a scientifically trained doctor from a paramedic or a physician assistant or a barefoot doctor. I am therefore referring to the irrelevance of the unduly long hours spent in some aspects of practical work, and far be it for me to decry the importance of understanding of basic concepts in the preclinical disciplines. Another trend of change is seen in the practice of integration of the pre-clinical and clinical disciplines. Most doctors in this country have been trained under the so-called traditional curriculum. By this system, the medical student begins his training with the basic medical sciences or pre-clinical disciplines, then going on to the para-clinical, and then the clinical disciplines. Within each group of pre-clinical, para-clinical and clinical disciplines, each discipline is taught in a rather independent isolated fashion, and students are required to pass examinations in each discipline at various levels of the course. In contrast to the traditional curriculum, there has also developed the so-called "Integrated Medical Curriculum". Integration basically refers to the bringing together of different parts (in this case, the different discipline) into a meaningful whole. For instance, at the pre-clinical level, the anatomy and the physiology of the cardio-vascular system are taught as one curricular unit by contributions from teachers of anatomy and physiology (both pre-clinical disciplines). The students are therefore taught the structure and functions of the cardiovascular system in one curricular unit, without realising that they are studying two artificially delineated subjects. Since this example of integration involves subjects at the same level (in this case the pre-clinical level) of the course, it is referred to as "horizontal integration". "Vertical integration" means the integrated teaching of disciplines traditionally taught at different levels of the medical course. For instance, while studying the structure and functions of the heart, the students at the same time learn about the pathology of the heart, the clinical manifestations of heart disease, the investigations and management. In the students' mind, the different subjects of anatomy, physiology, pathology, internal medicine, therapeutics, etc. do not exist. He just studies the heart in its totality. And he studies all these aspects from Year I. Futhermore, examinations are not set according to the disciplines (such as examination in Pathology, or Surgery, or Obstetrics & Gynaecology... whatever), but in the form of clinical problems to be solved. The essence in integrated teaching is to impart to the student, the relevance of what is taught. And, if a student appreciates the relevance of what is taught to him, his motivation in learning, as well as his retention of knowledge, is ennanced. Having said all that, it has still not been clearly settled beyond dispute that a fully integrated system generates a better end-product than the traditional system with limited integration, such as is practised in our school.

Of particular relevance in the Singapore context would be certain areas of training which have not received emphasis in the past. The optimal end-product must be a humanitarian and total doctor, equipped with skills to treat more than just the physical illnesses. The doctor must learn to see patients not as diseased organs or systems but as individuals living in a complex environment. Due emphasis, therefore, must be paid to psycho-social problems, and preventive medicine and primary health care. Herein lies the importance of adequate emphasis on general practice/family medicine in the curriculum. The importance of this emphasis becomes even more obvious when it is considered that well over half of our graduates after housemanship go into general practice. In the Singapore context, primary health care is to be concentrated on high rise, high density, high pressure urban living and not on living in an underdeveloped rural setting with inadequacy of basic health facilities, malnutrition and infections. Furthermore, because Singapore will have a continuously enlarging proportion of the older generation in the population, arising from a higher standard of living and improved health care, the undergraduate must be made aware of geriatrics and the problems of the aged. Also, in a free and freely mobile society like Singapore, problems such as drug abuse and diseases arising from sexual promiscuity in various forms, will continue to focus more and more the attention of the practising doctors; and these topics are receiving due

attention in the curriculum.

As medical costs escalate by leaps and bounds, health economics is receiving greater attention from all quarters, and the medical graduate must be sensitive to this aspect of health care, both for the welfare of the patients as well as for society at large. In this context, one of the main areas to look at, will be the judicious use of various expensive diagnostic investigations and treatment modalities.

In most medical schools, there is a relative lack of teaching on the ethical and legal aspects of patient management. As social and ethical issues become more and more complex with the advance of medical science, the doctor should be adequately equipped to analyse the complex features of a case in order to make a decision that is medically, ethically, and legally appropriate.

As the curriculum in the five-year medical course is already extremely tight, it is not easy to "squeeze in" even more training programmes. The poor undergraduate already has an unduly heavy cross to bear, and he is bearing it under immense physical and mental strain. Should the medical course be lengthened beyond the existing five years? This idea may not sound too ridiculous. The medical schools in New South Wales are already discussing this, and in fact the University of Sydney, which currently has a five year medical course, will with effect from next year, 1986, lengthen the course to six years, followed by the usual one year housemanship. Lengthening the course by one year will certainly help, but I am not sure by how much. And we should not hastily consider this move. Furthermore, one can carry on the same line of argument to extend the course to 7 years, 8, or even 9. We will then end up in the unenviable position that we enlarge the curriculum to fill in the extra time, rather than lengthen the course to accommodate an overtight curriculum — Parkinson's Law. In the meantime, some of the structured training in the areas discussed, must be conducted in the housemanship year and even in the early post-registration years. The topics should also form part of the continuing medical education programme of the general practitioner. All this brings us back, in terms of undergraduate medical education, to the necessity of a clear definition of our end-product, which, as the cat said to Alice "depends a good deal on where we want to go."