MEDICAL EDUCATION IN SINGAPORE*—THE PAST AND THE FUTURE

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The Hon'ble Speaker, the President of the Singapore Medical Association, distinguished guests and visitors, ladies and gentlemen. The S.M.A. lecture was begun a few years ago as a result of the concern of the Council of the Singapore Medical Association about the extreme bias in medical education towards pure academic aspects of medicine. It is of the opinion that a complete doctor must be not only well-versed in the art and craft of diagnostics, therapeutics, and prognostics, but also in the humanistic and liberal side of the philosophy of medicine. To bring about a balance of interest, and to promote discussion, a specially endowed lecture was instituted, and the first two were on medical ethics. I consider it a great privilege to be invited to deliver the S.M.A. lecture a second time, for the judgement of one's peers must surely constitute the greatest of honour or the worst of condemnation in the mind of a professional man. It is an honour that I ill deserved, but I hope to be able to use the opportunity to consider some local problems of medical education.

Taken in a wide sense, medical education can include community health education and would have an unlimited scope. However, I am contented to confine myself to the narrow one of the training of a doctor. A doctor begins his training as a young medical student and after completing his undergraduate education, he is let loose on the society to practise his art and science. Thereafter there is a need for further education because medical science is progressive and changing, and he must continue educating himself in order not to be obsolete. There is also the desire and need for specialisation so that a doctor may confine himself to a narrower aspect of medicine in order to achieve a greater depth of knowledge and skill. In that sense, post-graduate education for a doctor is a never ending one, and only occasionally accompanied by usual rewards of further degrees and titles.

Medical education began in Singapore, I am informed by the late Chancellor of the University Dato Lee Kong Chian, as a result of representations of local Chinese community leaders who in fact collected a sum of money to begin it. The Government established a Straits and Federated Malay States Government Medical School in 1905 (3rd July), and managed only to enrol 16 students. An earlier attempt to start a school was as a matter of fact made in 1891, but attracted only 9 applicants of whom only 2 were found to be suitable and they were sent instead to Madras to do their medicine. Of those 16 students, 7 graduated and the following namely Drs. Chen Su Lan and E.W. DeCruz are still with us. The first Principal was a Dr. G.D. Freer about whom we know little, but he would appear to be a broad-minded man for he admitted a female student— Miss Nunis as early as 1907. The teaching staff were entirely Government doctors, but within a few years, private practitioners also had been engaged in teaching e.g. Sir David Galloway.

Within 10 years, by 1915, the Principal, Dr. R.D. Keith, after raising the entrance qualification to the level of Senior Cambridge Certificate, began to take steps to secure the recognition of the British General Medical Council. This was fruitful, for in 1920, an inspection of the local medical school was made, and the diploma was accepted for recognition by the G.M.C. This was a proud day indeed for local medical education, for it meant that the standard of undergraduate medical education was now recognised to be at par with British Schools, and the diploma was to continue till 1950 when the University of Malaya was founded.

In 1925, the present General Hospital was opened, and an official ceremony was held for the Governor to open the new building of the Medical College. This was in many ways an important year from the historical point of view, for it also saw the conferring of an honorary diploma on Dr. Lim Boon Keng—a distinguished Singaporean, and the appointment to the College Council of a local medical graduate, Dr. Chen Su Lan, another well-known Singaporean. The staff gradually reverted back to Government doctors in toto, but were regard-

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ed as College staff with academic titles like Professor. In lesser departments like eye, venereal disease, ear, nose and throat, part-time teachers were appointed from Government staff.

In 1950, the University of Malaya was incorporated by the passing of the University of Malaya Ordinance. This was to some extent not totally expected, for the talks preceding were on the lines of forming an affiliated college tied to the London University, but the Commission appointed to study the problem under Sir Alexander Carr-Saunders boldly proposed that the time and the material were both ripe for the formation of a university. This proposal was implemented, and the Government Staff then teaching were transferred to be full-time teachers. The degree of M.B.B.S. (Malaya) took the place of L.M.S. (Singapore), and local undergraduate medical education was finally at a degree level.

The first Vice-Chancellor was Sir Sydney Caine who did much to set the toddler going in spite of his being a non-medical man, but proposal for a separate teaching University Hospital was not favourably received by the medical teaching staff! This unfortunate and unusual attitude might have hampered the development of medical education by anchoring the educators too firmly to service and routine. In fact, 10 years later in 1960, when I proposed to institute hospital beds devoted to special disciplines such as neurology and cardiology, one of the most strenuous opposition came from the Dean of Medical Faculty who thought that unless there were sufficient beds for the sick people, such activity would not be justifiable, showing that even in 1960 some if not all medical educators locally were more concerned with service and routine work rather than research and education. Even today, this attitude is still being strongly held by some leading local medical educators.

Then more and more part-time teachers, first from Government staff, and then from private practice, were appointed, and gradually the teaching committment was spread so much, that at one time, it was difficult to distinguish between the work of a University doctor and that of a Government doctor, the former doing as much service, and the latter as much teaching.

In 1952 the Medical School established a diploma course for Public Health and 1954 saw the first diplomats as Drs. Haji Mohd. bin Mohd. Ibrahim, Ling Ding Sing, and S. Narayanan. This could be taken to be the first systematised post-graduate medical activity which met with success, for the courses and examinations were conducted yearly and candidates came from countries in Southeast Asia.

In 1956, it was felt that a move should be made towards organised postgraduate medical education and a proposal at least was made to the then Minister of Education with no results. Then 4 years later, the Academy of Medicine formally proposed a joint study of post-graduate medical education in conjunction with the Governments of Malaya and Singapore and the University of Malaya. The Vice-Chancellor, Dato Oppenheim in fact convened a meeting, and a memorandum was drawn up for the consideration of all parties, but unfortunately the University of Malaya Ordinance Amendment 1958 was passed, and the issue was dropped. Dr. B.R. Sreenivasan was appointed as Vice-Chancellor to the new University of Singapore. Under his leadership, the University set up its own Board of Post-graduate Medical Studies and taking the initiative into its own hands, began to organise courses and meetings hitherto conducted by the Academy of Medicine and the Alumni Association. The question of post-graduate medical degree and examination seemed to hit a new low and was shelved by everybody except the Academy whose Master said in 1960: "It seems that in medicine, a merdeka (note: referring to the medical altitude) is also necessary so that we can proceed to organise for local medical higher degrees."

In 1968, Dr. Toh Chin Chye was appointed Vice-Chancellor of the University of Singapore. As he had announced publicly just before his appointment his interest in local medical higher degrees, the Academy took up the cue and approached him on the subject. As a result, there was new impetus, and new support, and within a year, the Board of Post-graduate Studies was remodelled under new statutes, and proposals for higher degree examination locally began to be studied actively, until today it seemed certain that within 1-2 years, the first local higher degree in clinical specialities would be awarded.

Coming this far, we can afford to speculate about the future. Now medical education, it seems to me is like a pirate's treasure hunt. There are plenty of treasure maps but no one leads to the hoard itself. There are many people talking about medical education, and equally as many proposals and schemes. It is doubtful that out of this medley of men and ideas, that we are going to see the emergence of a renais-

sance of medical education. Hence it is quite safe for me to add some confusion into this at present quite an unholy mess.

The attempts to plan and reshape medical education have been many and have a long history. Broadly however, we may simplify them by grouping them thus:—

(a) *Criticisms about the course being too complex:*

1. Medical curriculum is too heavy, and the period of training too long.
2. Medical education as a vocation is not commensurate with its earning capacity considering the requirement it exacted.
3. Medical education is too costly.
4. Medical education is too isolated from the needs of the community.

(b) *Arguments about the course being inadequate:*

1. Medical education is not keeping pace with parallel advancement in basic science.
2. Medical undergraduate is not given proper training to get into research stream.
3. Medical education should be continuous and life long, but there is little planned continuing education in existence.
4. Medical education has become so technical and narrowly specialised, that medical graduates have no liberal education.
5. The time available for medical undergraduate education (at present 5-7 years) is inadequate to cover the field of knowledge reasonably.

In recent years, many Commissions in the United Kingdom, U.S.A., and others have studied medical education, and many medical educationists have been in print on how medical education can be improved. Basically, however, one can see two opposing trends existing in the mind and recommendations of one same educationist! One is that the "knowledge explosion" in medicine demands that the courseload be increased, and hence disguised types of lengthening of courses have been introduced in the form of pre-registration housemanship, one year honour course in medical science and so on. The other is the awareness that a doctor is trained to work in the community and must be geared to community needs, and hence uneconomical wastage like failure in examinations, prolonged training, unnecessary insistence on degrees and requirements are all regarded as harmful and to be weeded out. Thus we see the strange phenomenon of educationist like Pickering talking of how a medical student must be trained to be curious rather than to know, and neglecting completely the fact that a graduate in a vocation is not expected to be insufficient in skill; and the equally strange result of medical school deans talking about revising an over-burdened curriculum only to introduce more examinations and longer period of training!

Clearly, the future of medical education in Singapore depends to a large extent on those taking the helm, namely the educationists in the medical school and the Education Ministry of the Government. Their ideas must shape the policies which in turn would dictate how the future of local medical education is going to be. However, it is possible for us to adopt a common sense approach, and reason out for ourselves a probable course which may be logically taken. I think we should begin by asking ourselves some basic questions:—

1. For whom are doctors being trained? Are they meant for institutions, community practice, or export?
2. What kind of doctors do we want?
3. How much do we want to spend on medical education?
4. Do we want to embark on post-graduate education, and if we do, what are the committments of such a venture and what are the benefits?

Considering the problem in the light of the questions above, it can be seen that even the well-known Todd's report, and the recent WHO travelling seminars in Singapore on medical education have not supplied complete answers. The latter for example raised opinions about doctor-training being community-orientated, and at the same time advocated the formation of a regional centre so as to co-ordinate medical schools. It must be obvious that the first suggestion with wide variations of environments and needs of various countries must necessarily imply widely different curricula and standards, whereas the latter must require some uniformity of training programmes and attainment and hence a basic contradiction exists.

Singapore is now for practical purposes a developed nation, for it is in fact a town in capacity and amenities. There is easy access, and the supporting groups for the medical profession like laboratory technical group, physiotherapy and almoner service are present. It means a doctor need not be isolated without

advice for long, and opportunity for group responsibility of medical care is available. This must mean that it is unnecessary for us to insist that our new graduates must be self-sufficient, all-rounder and well-informed in rural medicine. On the other hand, knowledge of urban conditions like psychoneurosis, health examinations, industrial medicine, and other urban problems would be an advantage. The multi-racial society would also demand a doctor with some understanding of local living conditions such as diet, housing, clothing, customs etc. In other words, we want to train doctors for an urbanised community in which a doctor can get specialised assistance readily and need not be a Jack of all Trades. However, the population is unable or unwilling to pay for specialised services, and hence highly differentiated specialisation is only required for a small group of sophisticated affluent Singaporeans and visitors from other regions, numbering in total probably less than 10% of the total population.

If this is so, then the bulk of medical undergraduate education must be designed to produce general practitioners who are capable of dealing with common day to day problems, but yet be well informed enough to co-ordinate with specialised services. The accent on surgery and perhaps midwifery also has to be pared down in view of the fact that the practice demands little of both, although the midwifery part can be redesigned so that a new graduate is not less confident than a midwife in delivering babies, as it is at present, due to education in the past fifteen years where he was taught more of the work of an obstetrical surgeon so that he graduated with knowledge of the dangers, but no practical skill of even a midwife!

The University of Singapore judging by the many public statements of its Vice-Chancellor, Dr. Toh Chin Chye, is acutely conscious of the need of change of orientation—particularly with regard to the teaching of general practice. However, it must be borne in mind that knowledge is teachable only when a sufficient body of it has been systematised and made constant. Also education must require as its essential parameters the presence of candidates and qualified teachers. In the question of general practice, the students can be made the unprotesting candidates, even though at present it appears that majority of the new graduates prefer not to enter private practice, if not forever, at least for the first few years. Is it a good educational move to teach private practice as part of the undergraduate curriculum or should one, knowing the local circumstance, veer towards the recommendation of the Todd's Commission to have the art taught as post-graduate apprenticeship?

Then, it is not quite clear what constitutes general practice both regards its delimitation of activity and its expertise. In what way is the care of a patient general practice, and not institutional practice? In what way is a private clinic different from a Governmental outpatient clinic? If the difference is in the medical art, and sufficient and constant enough to be professed, then teaching is possible. If it is otherwise such as economics and organisation, then the teaching of private practice will become a non-medical educational endeavour!

Moreover, how does one select the teachers for private practice? It is to be noted that the various colleges of general practice in fact draw their strength from doctors with specialised degrees in the general practice. Is this then an implication that general practice is specialised practice under less ideal circumstances?

Singapore has chosen to go ahead with post-graduate education to the ultimate conclusion, namely the conferment of post-graduate diplomas and the setting up of specialised research institutes. The Academy of Medicine has tried since its inception in 1958 to institute local higher degrees without success. Dr. Toh, the Vice-Chancellor of the University of Singapore, has in fact in his first few months of office set in motion the machinery for such degrees and with him at the helm, it certainly looks that finally, this is becoming a reality. Again, it is well to remember a few basic points:—

1. Local higher degree must gain acceptance locally by Government, educational institutions, and later the public at large.
2. It must have an acceptable standard.
3. It should have international standing.

Superficially, one may think that 2 and 3 are natural corollaries, but the truth is far from being so. A standard is an artificial boundary, and acceptability varies according to needs and environment. Similarly, international recognition is based on many other factors besides professional and academic excellance, and a good number of the factors are external in the sense that they are dependent on the attitude, and thinking of other nationals. Examining the history of post-graduate education and diplomas in other countries, one can readily see that the primary factor of importance is that there should

be a local need for such activity, and that local officialdom should not only accept such activity but promote and protect it much as it does to pioneer industries. Hence in a well organised nation, it would be ludicrous to set up post-graduate examination and degree structure first and then strive for official recognition. The official desire to have such a degree must first be there, and then the standard is laid down to make sure that recognition is an assured thing. This has in fact happened in the recent example of Singapore D.P.H. and Malaysian M.B.B.S. Once the degree structure is there, and the products are available, then international recognition can be negotiated for on a basis of mutual respect, co-operation, and other grounds.

Nevertheless, uncertainties notwithstanding, it seems obvious that the future of medical education in Singapore as far as it is foreseeable will be towards the development of an urbanised programme with accent on industrial community medicine, and the institution of specialised centres and disciplines. The direction is too set to be likely to change. What is yet difficult to predict with certainty is the rate of change.