The Medical Curriculum in Great Britain*

UNIVERSITY AND OTHER QUALIFICATIONS

TRAINING AND EXAMINATIONS

ENGLAND has been hearing a great deal about the training of medical practitioners. All through the spring months ran the long drawn examination by a Committee of the House of Lords of the evidence for and against the bill proposing that osteopaths should be accepted as medical men. The bill was withdrawn, and it may be hoped that the lay public accepted that decision with satisfaction, though it is doubtful whether they could follow the arguments of the medical experts who sought to emphasise the essential value of what was given by the orthodox medical curriculum in training the practitioners whom the country requires for its manifold services in matters of public and private health.

Now, immediately after the ending of this debate, comes a report of high authority confessing that the medical curriculum itself is in need of amendment, and proposing substantial changes. The fault here is of a very different nature and the contrast should be noted. The osteopath sought to be accepted as a medical practitioner on a scanty curriculum bent around a fundamental hypothesis of the cause of all diseases which had no relationship to the steady advances of scientific knowledge in biology.

Orthodox medicine moves forward in close harmony with every advance in modern science, gaining understanding of disease and power to control it from the physicist, the chemist, the zoologist, indeed from all except the successors of the old astrologist. Each such step forward in medical knowledge may mean the chance of its application to some individual patient, and the teacher of medicine, thinking of those patients whom his students may have to tend, feels his duty to be that no detail of possible value shall be omitted. So the student's memory is overburdened and he loses thoughtful education. The medical curriculum is not too scanty but too full.

The need for a revision of this curriculum—a rationalisation to use the latest phrase from the world of industry—has been urged again and again, by students as well as by teachers. There seems to be a greater difficulty in planning a course that shall combine education of a university type with adequate vocational training in the subject of medicine than is met with in engineering, chemistry or law. The medical man, when qualified by the final examination, is expected to be able in his independent judgment and knowledge to handle rightly one and all of the practical problems that may arise in human illness. There is no later stage of apprenticeship for him, and the routine training must be thorough and exact.

The general scheme of this training in its minimal form is outlined by the General Medical Council, a body which does not itself examine candidates or grant diplomas. Each university is free to arrange its own course of instruction and its examinations for its own degrees, provided that the standard for the latter does not fall short of the minimum prescribed by the General Medical Council. Outside London, this freedom has been used from time to time in remodelling the courses of medical education, and quite easily because each university could assemble its teachers and decide upon an agreed policy. But London in its hugeness was confronted with peculiar difficulties. The University of London contained not one but twelve medical schools, all teaching for the University degree but with teachers who until recent years did not feel inclination to obey a central University authority. Side by side with the University in the metropolis was another examining, but not teaching, body with power to grant a qualifying diploma, that of the Royal College of Physicians and Royal College of Surgeons. This Conjoint Board diploma was governed by its own curriculum, arranged in complete independence of the University of London and with its examinations graded in such a way that almost all the University of London students found it advantageous to take the Conjoint Diploma first, despite the additional and heavy fees entailed; and then a large proportion of them never troubled to complete their University course. With this alternative road to a vocational qualification lying open to its students, the University lost full liberty to make its own decisions as to the training of these men.

An added complication came from the medical schools of Oxford and Cambridge. These Universities

* Report of the Conference of Representatives nominated by the Universities of Oxford, Cambridge and London, the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries of London, on the Medical Curriculum. Pp. ii+34. (London: University of London, 1935.)

granted a medical degree, but taught only the pre-clinical subjects. Almost all their students went for clinical training to London, to be taught in the curriculum of the University of London. Cambridge was eager for changes in the course of training, but its hands were tied because it had no power to change the routine of teaching in the London schools. Moreover, any alteration in its final examinations which might introduce difficulties for Cambridge students was open to the danger that they would simply cease to present themselves for the Cambridge degree. For the Cambridge and Oxford men, like those of the University of London, almost all secured their position in practice as early as possible by taking the separate Conjoint diploma of the Royal Colleges.

While Oxford and Cambridge were thus hindered in their desires for reform of the curriculum, London also lost some of its freedom for independent action owing to the presence of the students whom it welcomed from the older Universities. These men were not registered as students of the University of London, but Oxford and Cambridge would have felt the discourtesy if London had introduced large changes in its curriculum without inquiring how such changes would affect the course of clinical studies ordained, though not taught, by the two Universities for their students whom they sent to London. The only body that was really free for independent action was the Conjoint Board. It arranged a good practical curriculum and a sound clinical examination, though on the simple lines of a vocational training. Its demands could be less than those of a university, and it was in the position of established strength. Two thirds of the London students were content with the diploma of the Royal Colleges and never completed the University course.

These obstacles to independent action have been surmounted in the only possible way. In 1932 the Senate of the University of London invited the Universities of Oxford and Cambridge, the Royal College of Physicians of London and the Royal College of Surgeons of England to appoint representatives for a conference on the defects of the medical curriculum. The proposal was received with good will and friendliness by all. An executive committee was appointed, and in two years the Report of the Conference was issued, on April 30, 1935. Though so many bodies and so many different subjects in medical education were represented, the work of the Conference and of the Committee went forward so quietly that little discussion of the questions was excited outside the Conference itself, and the Report is signed with agreement of all its members. It is an excellent document, and the acceptance of its main recommendations and especially of its spirit by the university and other authorities concerned would improve notably the education of medical students in the metropolis. The number of the latter is larger than is commonly realised. The Medical Register shows a total of about 1,500 men and women accepted each year as newly qualified doctors. Approximately one half of this total for the whole of Great Britain receives clinical training in London. The Report has a larger responsibility than even the names of Oxford, Cambridge and London might suggest, for it considers the education of half the medical men in Great Britain.

The Report emphasises one leading principle, that education of intelligence is required, so that the student's mind may "acquire that kind of culture which survives the forgetting of facts". Again and again attention is directed to the excessive loading of the memory with details for the purpose of passing some examination which stands as a high fence before the student can pass from one closed field of the curriculum to another. Many of these facts resemble the leaden weights which a horse must carry for a handicap race, useless and discarded as soon as that particular race has been run. The Report aims at lessening the isolation of one field of knowledge from another in the progressive curriculum, seeking for example to carry physiology onward to help in experience at the bedside, while bringing illustrative material from the hospitals into the preclinical years to emphasise the aim of physiological or anatomical studies. The hope is to produce the trained intelligence, and the memory which is exact in that which must be remembered for the sudden needs of action or decision in medical work, but is not burdened with those innumerable details of secondary importance which any intelligent person would know how to find in a book when he needs them. That type of mind will not be produced unless the work of the curriculum allows reserve energy and time for thought. A lightening of the load as well as a modernisation of its content is required, and it is essential that the recommendations of the Report be judged with close attention to this primary need.

The Report does not suggest any change in the total period of medical studies for qualification, namely five years, or in its present division of two years for the preclinical period (anatomy, physiology, etc.) and three years for clinical studies. But the intermediate subjects of the preclinical years are to undergo some change. Anatomy and physiology, with biochemistry, will both receive rather less of the student's time, and they are to be illustrated towards the end of the period by

examples of derangement of normal structure or function as seen in hospital practice. In both subjects it is directed that the examinations shall not involve "burdensome memorisation of detail", structural or otherwise, but shall rather test the student's grasp of principles. Professors of anatomy and physiology are not likely to be dissatisfied with this. Their own courses of academic training for higher degrees in these subjects have generally been distinguished from that provided for medical students by the emphasis laid in examination on the comprehension and intelligence of the candidate rather than on a routine load of information. It is the type of medical examination hitherto in vogue which has insisted on minute topography or memorised physiology. But in one respect the physiologists until recently have been to blame, since they were slow to meet the needs of medical students by illustrating their science through observations on man or even on the mammal. It was once said that physiology never taught the essential facts of the catamenial period because menstruation did not occur in the frog. That reproach now belongs to past history.

Pharmacology is also eased, by attaching the subject to physiology, abolishing its special examination, and no longer requiring at this preclinical stage the purely artificial knowledge of doses of drugs and their therapeutic applications. But the leisure time that may perhaps be gained by changes in these three original subjects of the intermediate course is not left idle. Two new subjects are to be introduced, each on a minor scale. The first is an admirable choice, psychology or, as it might better be termed at this stage of the curriculum, the physiology of the mind and emotions. Eight lectures, presumably without practical experiments, are to be given and not to be followed by an examination. Medical psychology and psychiatry form a subject of immense importance both in the therapy of patients, whether physically ill or mentally afflicted, and in public health. But the subject has grown up in its own house apart from the so-called exact sciences. The medical student does not make acquaintance with it until near the end of his clinical training, and then too often in only a perfunctory way that makes him fail to grasp its high importance. In his clinical period he soon discovers that much of what is taught to him on any question in the wards lacks rigid scientific proofs, and he becomes habituated to a different set of values in the art of medicine. Psychology exists to him only in that later environment. The subject cannot but gain in strength if it is shown to be capable of a scientific exposition that will endure comparison with that of physiology, and its obvious interest may then prove powerful enough to determine some of the best of the younger men to devote their lives to the advancement of the science of mental diseases, a recruitment that is sorely needed.

The second new subject to be introduced is one which definitely links the preclinical with the clinical subjects, namely pathology in its general aspects including bacteriology. This is to be studied in the last two terms of the preclinical course, and with such seriousness that an examination in it is to be grouped with those on anatomy and physiology at the end of the preclinical course. This introduction is also a reasonable and good choice, for it prepares the student to think scientifically of disease by comparison with normal anatomy and physiology; but with the examination added it most emphatically cannot be regarded as a lightening of the curriculum at this stage. The general conceptions of pathology do not follow directly from the knowledge of normal anatomy and physiology. They are new phenomena which require time for their comprehension and some practical experience, whether this be got by laboratory experiments or by seeing human disease. Yet the student is expected to pass an examination in this new subject after a short course and at a time when he needs all his spare energy for ensuring success in the examination in anatomy and physiology which must be passed before he is allowed to move on to his clinical studies. Surely it would be wiser to give the preliminary course but to defer the examination until knowledge can ripen with fuller experience and with time for thought on that experience.

The advocates of pathology are continually increasing their claims on the medical curriculum. In 1922 the clinical period was extended from two years to its present time of three years, and that at once gave an extra year to pathology, which is taught or studied throughout all phases of the clinical period. Now, though normal anatomy and physiology are being pruned to a limited spread of growth in their short preclinical season, pathology and bacteriology are to be extended backwards for another six months, to take root in the preclinical time, to spread over all the three clinical years, and stand strongly as a separate subject in the final examination itself. One is reminded of the triumphant song of Psalm lx. "Moab is my washpot: over Edom will I cast out my shoe." But this conquest is no lightening of the burden of the curriculum, either at the beginning or the end. Academic pathology, as a science, may be more essential for the study of medicine than either anatomy or physiology, but it is difficult to justify two examinations in it when one suffices for each of the latter subjects.

The final examination in pathology, as at

present held, involves as burdensome a loading of the memory as the examinations indicated for amendment in anatomy and physiology ; and it comes at a more grievous time when the student requires all the spare crannies in his memory for necessary details of clinical work. It would have been a real liberation for him if pathology had been satisfied with one examination only, about the end of his second clinical year, so that, well trained in rigid scientific thought by anatomy, physiology and pathology successively, he could then devote himself to his final clinical subjects and, under the guidance of clinical teachers who would also be his examiners, prove his intelligence in the application to medical problems of these fundamental scientific subjects. A modern clinician in a good hospital, whether he be surgeon or physician, is guided in all his thoughts by applied physiology and pathology : indeed he is more alert to employ physiological knowledge for the investigation of clinical problems than is the pathologist, who tends to restrict his outlook to morbid anatomy and immunology. It is essentially the clinician's duty to apply in his work the principles derived from the sciences of physiology and pathology, and to explain their application to the student when the latter has learned these sciences in their academic aspect apart from the individual patient. If the clinical teachers cannot use this knowledge in his work, the student will be driven to think that it is all artificial and a weariness added to his mind. It is not reasonable to impose at the end of the clinical period a separate examination controlled by pathologists who are likely to demand from the student, just when he is maturing to clinical skill, a greater load of pathological information than he or even a senior clinician can employ in work with patients.

For the clinical work of the final three years the Report has no considerable changes in view. It stresses that more attention should be given to attaining practical familiarity with minor ailments and with common diseases of the skin, eye and ear, which tend to be segregated in special departments of a hospital. The required time may be found in curtailing that of attendance on such major operations as in later practice will fall only to the surgical specialist. Emphasis is rightly laid on the need for fuller practical instruction in the psychological aspects of ill health ; and a special course of lectures is demanded for public health and State medicine, including forensic medicine. All these are additions obviously needed for the education of the ordinary practitioner, but nothing has been put aside to make room for them.

The most fundamental change of all in the clinical period is that recommended for the sequence of the final examinations. Hitherto obstetrics and gynæcology have been grouped as a small subject, easily methodised in teaching, and often cleared away by the student as a preliminary to his more serious approach to medicine and surgery. That meant a lower standard of skill in a subject where recent developments in public health services have actually been tending to require that the practitioner shall at once be competent to assume the position of a consultant with ripe experience. So the order of examinations has been reversed, and obstetrics together with diseases of children and State medicine are to form a senior subject in Part II of the final, which cannot be passed until the student has completed his examination of medicine and surgery. This change would undoubtedly fit the doctor better for his important duties in relation to national health, though actually it cannot but constitute an increase in his curriculum, because a higher standard of knowledge will be demanded for subjects that at present are treated too lightly. The Report offers no advice as to the time when these different examinations may be attempted in the final period, but it is assumed that all can be completed by the end of the three years.

The formal decisions now lie with the Universities and the Conjoint Board. If the recommendations of the Report are generally accepted, the education of the doctor will be more intelligent and far better adapted to the needs of modern practice. But the examiners will still be waiting at the Caudine Forks. Unless they alter their present attitude and in advance of the examinations reassure the student that the change is real, he will continue to load himself as before with every odd scrap of knowledge that he fancies may be called for at his trial. Then the new subjects will be found to have added to the present burden of the curriculum and all will be heavier still. Someone recently compared the weight of kit carried by the British infantry soldier in comparison with his body weight and muscle to that which is the regulation maximum for horse and camel in the same scale of comparison. The infantryman would be fairly loaded at 30 lb., but his determination enabled him to struggle along with twice that weight as modern science altered warfare and new devices were continually added to his original kit. The medical student is in a like plight, and he too carries on. The difficulties of his toil have been recounted by the Dean of St. Mary's Hospital, Dr. C. M. Wilson, in an article justly entitled "The Student in Irons"*. If the examiners accept the spirit of the present Report, they can do much in helping to unshackle a very willing worker. T. R. E.

* *British Medical Journal*, March 12, 1932.