THE REPORT OF THE ROYAL COMMISSION IN REFERENCE TO MEDICAL TEACHING IN LONDON.

By ERNEST H. STARLING, M.D., F.R.C.P., F.R.S.,
JODRELL PROFESSOR OF PHYSIOLOGY, UNIVERSITY COLLEGE.

I.

REGRET has been expressed that there was not included among the Commissioners a medical man, preferably a London graduate, who should be acquainted at first hand with the conditions of medical education in London. Such an inclusion would, however, have been in contradiction to the spirit underlying the appointment of the Commission. Its labours included the consideration of the teaching of arts, science, and engineering, as well as of medicine. No teacher of these subjects or engineer was included, the Commission being made up entirely of administrators and business men (with one judge)—that is to say, of men whose life business it has been to act or to devise policies after taking the opinion of experts on the different problems involved. It would have been hard, therefore, to make an exception in favour of medicine, and still more difficult to choose a representative medical man who, though interested in the matter, had taken no side in the interminable discussions which have occurred during the last twenty years of the University. The advantage of having no such man on the Commission is that the Commissioners have come to the burning questions which have divided medical opinion in London—for example, the concentration of preliminary and early medical studies—with an entirely open mind. As a result they have left some of them entirely on one side and have indicated new policies, which may indeed not satisfy any particular party in the University, but represent, at any rate, an unbiased attempt to create a London Medical School which shall be second to none in the world. It behoves every medical teacher, therefore, to try and approach the recommendations of the Commission with an equally open mind, and to ask himself whether, although his pet scheme is not advocated, the actual recommendations may not be, if not in his opinion equally effective, yet a considerable advance on present conditions, and whether they may not contain the possibilities of a right development in the future.

The recommendations in the Report fall under two headings:

1. In the first place suggestions are framed which will enable the work of medical education in London to go on with the present machinery, while removing many of the hindrances which medical schools have experienced in their work.

2. In the second place, a plan is sketched out by which the new University, when it is constituted, may establish, either *de novo* or preferably out of the present machinery, a University Faculty of Medicine under the control of the University and with full control of academic matters affecting medicine, which, while preserving all the advantages of the present English system of medical training, may provide, as has never yet been done, for the carrying out of the other function of a university—namely, the *advancement* of learning. This act of creation cannot, however, be immediate, since it awaits the formation of a new university by Act of Parliament, and in all probability also the voluntary sacrifice of autonomy on the part of one or more of the present medical schools. It will be convenient, therefore, to deal first with the situation which will present itself directly the new University is constituted.

THE PRESENT MEDICAL FACULTY.

At the present time the Medical Faculty is a large unwieldy body composed of practically all the teachers in the London Medical Schools. It has no powers except the election of three representatives on the Senate, representatives who as soon as they enter on their duties find themselves enmeshed in a great cobweb of red tape which renders them practically powerless for good or for evil. The Faculty has no power to appoint Boards of Studies,

to propose the curricula, and to nominate examiners. The proposals of the Boards of Studies are subject to alteration and amendment by the Senate, and have to be approved both by the Academic Council and by the Council for External Students. No change in the curricula has any chance of approval unless it is equally adapted to the needs of London students and students in the provinces.

THE PROPOSED BOARD OF MEDICAL STUDIES.

In the scheme proposed by the Commissioners the Senate becomes a small body of men occupied with finance and general policy, who will therefore not interfere in academic and professional questions. All the present Medical Schools will be continued as Schools of the University, and their teachers, who at present form the Faculty of Medicine, will lose this name and be entitled the "Board of Medical Studies." This Board will have power to appoint any committees it may wish, and these committees will play the part at present appertaining to the Boards of Studies. These committees, however, will be appointed by the body of medical teachers, and will have to report to this body before any recommendation is sent up to the Senate. The Board of Medical Studies can determine also what committees it is advantageous to appoint. It will directly or through its committees draw up curricula, nominate examiners, and determine conditions of the examinations. The examinations, as now, will be general, but open and common only to students in the London Schools, the external student in the Faculty of Medicine being abolished.

There is apparently no suggestion to interfere with the present grants of the Board of Education to the London Medical Schools, and it is to be presumed that these grants, as now, will continue to be awarded on the amount of professional training of sufficient quality which is given in the schools.

These changes are none of them very revolutionary, but are improvements on present conditions, and probably represent a large part of what would be regarded as desirable by those teachers who are strongly attached to the principle of autonomy of the separate schools.

EARLY EDUCATION.

More fundamental proposals are made with regard to the studies and examinations which are antecedent to the professional curriculum. It has long been felt that one of the chief bars to any increase in the number of medical students in London taking a university degree has been the exclusive character of the matriculation examination. In its older form, with a number of compulsory subjects, it might have served as a test of a good secondary education; but, owing to the fact that only a small number of schools regulated their courses of studies in accordance with the requirements of the London University, most boys who wished to take a London degree had after, or just before, leaving school to take special classes, or go to cramming to be prepared for this examination. Changes which have been introduced into the examination during the last ten years have, indeed, rendered it easier, but have robbed it of most of its value as an incentive to a properly balanced secondary education.

The Commissioners regard the whole examination as a mistake, and propose that admission to the University should be determined on the basis of a school examination, which should be passed by the scholars in all secondary schools of the country at about 16 or 17. The examination will probably be under the general supervision of the Board of Education, acting in concert with the local university, and with the school teachers, and will be based on the school curriculum. If this school-leaving examination is made a necessary requisite for entrance to all professions, as is the case with the Abiturienten examination in Germany, every medical student in the country will finally be qualified to pass to a degree in the University of London. Until such action is taken by the Board of Education it would seem that some examination like the present matriculation must be continued by the University. But it does not appear likely that the newly constituted University will place the captious difficulties in the way of recognizing the entrance examinations of other universities as has been the case with the present University.

EDUCATION IN THE PRELIMINARY SCIENCES.

The proposals of the Commissioners with regard to the preliminary scientific education and examination are more revolutionary, or, at any rate, unexpected, and suffer from the objection that, however desirable they may be in themselves, many years must probably elapse before they can come into effect to any large extent or influence any considerable majority of the London students. The Commissioners adopt the view which has long been maintained by the Royal Colleges, namely, that preliminary science should be learnt during the school years. They therefore recommend that a *senior* school examination be held in all secondary schools, more specialized than the examination mentioned above, and varying in type according to the subsequent aims of the pupil. In the case of the pupils who propose to proceed to medicine this examination will include physics, chemistry, and biology, and should be passed by the pupil about the age of 18, so that the last one and a half to two years at school will be spent in the study of these subjects. Until this examination is not only instituted but becomes general, the University will have to continue its Preliminary Scientific examination, and not until this examination is passed can a student enter the University as a student of medicine. Probably the nature of this examination, and the method of holding it will be largely influenced by the representations of the Board of Medical Studies, that is, the body corresponding to the present Medical Faculty. But it is a weak point in the Report that no clear account is given of the long transition period which must elapse before the recommendations can become effective, and it would seem that the Medical Schools may have to provide teaching for the subjects of this examination for a considerable time to come. The Report draws attention to the greater difficulty of teaching biology in schools as compared with physics and chemistry. The changes recommended by the Commissioners would be certainly easier to bring about if this subject were dropped for the Preliminary Science examination and the training in general biological principles transferred to the teachers of anatomy and physiology in the Medical Schools. Such a change would meet with the approval of many of the teachers of the professional subjects, but it is not clear from the Report that any such change is contemplated by the Commissioners. Certainly most Medical Schools would feel it a relief to receive the students already well grounded in the elements of general science by a two years' course of physics and chemistry taken while they are still under school discipline and during their most receptive years.

THE NATURE AND FUNCTIONS OF UNIVERSITY EDUCATION.

These proposals, however, do not make a University Faculty of Medicine, they simply provide for an improvement in the examination test of knowledge acquired at a number of hospital schools, and ensure some correlation between the examinations and the average teaching carried out in the different schools.

The fundamental idea underlying the present Report is that university teaching can be given only by men who are actively and systematically engaged in the advancement of knowledge in the subject they teach. It is the association of such men which forms the university and creates an atmosphere in which the student not only learns to earn his living but acquires also the training of mind which will fit him to take part in or to avail himself of every advance in the knowledge of his subject. "He learns to weigh evidence, to follow and criticize argument, and put his own value on authorities."

Hitherto there has been no means of organizing either teaching or research with a single eye to the interests of medicine as a whole. It was these considerations which led the last two Royal Commissions to advocate the concentration of preliminary and early medical studies in university institutions, so that London men should have the advantage, at present enjoyed by Oxford and Cambridge students, of a university training during the first three years of their medical course, and the institutions, being under the direction of professors appointed by the University, could have been freed from the hampering effect on their education which is at present exercised by the system of external examinations.

In the last University Commission the subjects of pathology and hygiene were grouped with those of the

intermediate studies, anatomy, physiology, and pharmacology. Until recently no one has ventured to suggest that the professional subjects of medicine, surgery, and gynaecology were equally susceptible of treatment as subjects in a university curriculum, or that the university spirit was as necessary in the pursuit of these studies as in that of physiology and anatomy. We have been apparently so deeply impressed by the system in which we have been brought up, derived from the century-old method of apprenticeship, that we have regarded the main object of medical education in the later years of the curriculum as a training in a craft. As Mr. Flexner rather unkindly says, "Such medical teaching regards itself as preparing the student to be a higher sort of artisan." Curiously enough this attitude of mind is peculiar to England, and its long survival and its strength at the present day are probably due to the first-rate quality of the technical training which is given, especially in London, and to the high personal character of the men who are responsible for the training. But its effect on the advance of medicine and surgery in this country can only be regarded as disastrous. In the advances of the last twenty years our clinical teachers have taken little part. The English schools of physiology and pathology, and of tropical diseases, have acquired a high reputation in the civilized world, but reference to the authorities quoted in any textbook of medicine shows that, with but a few honourable exceptions, the recent advances in the science of medicine, when not due to pathologists or physiologists, are accredited to some foreign school. Nor are our clinical teachers to be blamed for this condition. Many, perhaps most of them, take up medicine or surgery from a love of the subject, and the question of professional success—that is, the acquisition of a large practice—may be at first an entirely subordinate consideration. But it has to be taken into account that at the present time "there is no place in the sun" for the man who would give his life to medicine or surgery. Unless he has a considerable private income he must practise or starve. Nor are the chances of advancement in his profession determined by his powers and work as an original investigator. It is more important that he should work for the school to which he is attached than for the subject which he professes. It is twenty years since I was told authoritatively that "a medical school is not the place for research," and since that time conditions have altered considerably, but even now organized research is regarded as something fitting for the scientific teachers in the school rather than for the clinical teachers attached to the hospital staff.

The complete lack in London of teaching of university rank in the professional subjects of the medical curriculum was brought clearly before the Commission by Flexner, not only in evidence, but also in his reports to the Carnegie Institute on the conditions of medical education in the States, Canada, Germany, and France, as well as in this country. If a real University Faculty of Medicine is to be created in London it must be made possible, in Flexner's words, "to import into London the scientific producing clinician—devoted to teaching and research—from any place in which he may be found; and younger men must be taught that their chances of higher appointment depend, not on using themselves up in tutorial coaching, not on faithfully stepping into the breach when the superior is absent nor following in his footsteps when he is present, but on the development of their own powers along genuinely productive lines. . . . The first step in the direction of modernizing medical education would appear to lie in the total conversion of an existing school or in the creation in London of a new school, the clinical Faculty being selected upon precisely the same lines as the scientific Faculty, the entire body of teachers animated by one ideal and working as an organic unit towards a single end. The clinician's relation to the hospital must reproduce the chemist's relation to his laboratory."

UNIVERSITY COLLEGES OF MEDICINE.

Evidence to somewhat the same effect was given before the Commission by Sir William Osler, by Dr. Head, and, with reservations, by the staffs of St. Bartholomew's and of the London Hospitals, with the result that the Commissioners have been convinced of the feasibility of creating a University School of Medicine in London which

will include all subjects of professional study, and which will conform to the ideals of a university which are generally accepted for the Faculties of Arts, Science, and Technology. The Commissioners therefore propose that, as in the other Faculties, one, two, or three University Constituent Colleges of Medicine be instituted in connexion with hospitals. In these colleges the financial and academic control of the schools must be in the hands of the University, the local management of each being carried out by a delegacy appointed by the Senate of the University. Each of these Colleges will include departments representing *all* the subjects of the medical curriculum subsequent to the Preliminary Scientific examination. Only University students, that is, those who are qualified for registration as matriculated students in the University, will be admitted to these Colleges, but it must be remembered that most students of Oxford and Cambridge, and probably of other universities, will be capable of being so registered. All the teachers in the Colleges will finally be appointed by the University, using the mechanism of Boards of Advisors as at present, as professors, associate professors, or readers. The "Faculty of Medicine" of the University will be composed of these teachers appointed by the University. Since these teachers will be selected and appointed by the University, they will be trusted to develop their teaching along their own lines, and to determine—subject to the general approval of the whole Faculty, and in the qualifying examinations to inspection by the General Medical Council—the nature and extent of the examinational tests to be applied. It is laid down, however, that assessors must be appointed to aid the professors in their public examinations.

It will be noted that the Commissioners thus accept the argument insisted on during the concentration discussion of a few years ago, especially by the teachers of the Medical Schools of London and Guy's, as to the great advantages connected with the close association of all subjects in the medical curriculum, intermediate and advanced, in the same educational institute. By throwing over "concentration," however, the Commissioners have had to abandon a principle on which much stress was laid by the advocates of concentration and of which they themselves approve in the early part of their Report—namely, the advantage to the student of an education in an institution where many Faculties are represented, so that he can broaden his mind in directions other than the immediate subjects of his studies. Both advantages are real ones, and I am inclined to think that if choice has to be made between them the Commissioners have taken the right course. Moreover, it is possible that the mixture of students of many Faculties may be effected to a considerable extent by the institution of hostels connected with the University rather than with any given College or School, whether of one or more Faculties of the University.

The most important innovation in this scheme, and the one which promises most for the advancement of medicine in this country, is the recommendation that University professors shall be appointed to deal with the clinical subjects. These professors are to have charge of wards and of laboratories attached to the wards. They will have a number of paid whole-time assistants, in addition probably to half-time unpaid assistants. They will have charge of an out-patient department connected with their wards. They will receive a salary of £1,000 to £1,500 a year, and will be expected to devote all their heart and the greater part of their time to the work of teaching and research in their department. They will, however, be allowed a certain limited amount of private practice—for example, two or three afternoons a week.

There is no question that these proposals of the Commissioners will meet with much criticism. Mediocrity is certain to be up in arms at the institution of any system which promises to pick out and place in a superior position the talented, the enthusiast, or the man of genius. But it must be distinctly pointed out that no proposal is made to abolish the present system of clinical teaching in London—namely, teaching by appointments. All the witnesses examined before the Commission were unanimous on the advantages of this system; and Flexner in his book on *Medical Education in Europe* expressly shows that the great lack in German medical education is some system

like this, in which students obtain direct access to the patients during the whole of their professional studies. There is no doubt that in London the art of medicine and surgery is taught to the ordinary student better than anywhere else. This system, however, will not be any the worse for having added to it instruction by skilled teachers who are giving their life to their subject instead of by men in active practice who can spare a few hours a week for their hospital wards, but have no time either to carry out investigations for themselves or even to keep themselves abreast of the modern developments of science.

At the present time it is the training rather than the teaching which is the strong point of the London schools. The most important teaching that a medical student in London gets he receives from himself and from his fellow students, especially those holding senior appointments, as he passes through the various positions in the hospital with their graded responsibility. Much of the teaching by the staff is recognized by the students themselves as out of date. The actual instruction imparted in a school is largely directed to passing the students through their examinations, the most sterile form of instruction possible, since knowledge gained solely in preparation for an examination is apt to be thrown away and be lost a very short time after the examination is passed. In a real University the passing of the examination is not the end of the training, and should hardly bulk at all in the mind of the student. The whole aim of his education should be to fit him for his future work, to render him mentally alert and resourceful, keen to avail himself of the advance of knowledge, and prepared by scientific training to distinguish the true from the merely specious among the various modifications in the theory and practice of medicine which are being continually brought before the public.

The recommendation of the Commission that a certain limited amount of private practice should be allowed to clinical teachers will hardly count as an attraction to the right kind of men for the post, but it will be useful in furnishing a bridge by which a professor who is tiring of his earlier aims, or losing his enthusiasm and is beginning to be attracted by the more lucrative rewards of practice, may be enabled to give up his post and devote himself entirely to practice, his place being taken by some younger man with his enthusiasm for medicine and medical research still hot upon him. In this way a constant succession of the right class of man should be assured, and it must be remembered that these men will be drawn not from any given Medical School or College, but from the whole Empire.

FINANCIAL.

It is evident that no step can be taken in the creation of a Medical College or Colleges of this type until the new University is established. The Report suggests that one, two, or three of the existing medical schools might be taken over by the University. In each such Medical School the buildings and funds available for medical education should be vested in the University and be administered by a delegacy appointed by the University.

Suggestions are made in the Report for the manner in which adequate arrangements might be made between the University and the hospital with regard to the use of the wards for teaching, but this I need not go into.

It is calculated that in a School with an annual entry of about seventy students the income from fees, endowments, and grants from the Board of Education would amount to about £12,000 to £15,000, and would be sufficient for the requirements of the departments of Anatomy, Physiology, Pharmacology, and Pathology. To this the University would have to add another £12,000 for the service of the three units of clinical study—medicine, surgery, and gynaecology. Additional provision would have to be made, either in the school or elsewhere, for the special departments of clinical study, which would require further expense. Thus the University would have to be founded and provided with funds before it could carry out the negotiations necessary for the conversion of one of the present Medical Schools into a constituent College of the University. It is impossible at present to say which, if any, of the schools would be willing to accept the terms suggested. Although the School itself would gain enormously in prestige and usefulness, considerable sacrifice

would be required from the individual members of the present staffs; for the change would mean not only the sacrifice of their present autonomy and patronage, but also the admission of a new order of men who would be academically, though not necessarily professionally, of a higher grade than the present clinical teachers.

The change would also involve the transference of the whole future of the School into the power of a new and unknown body, and necessitates, therefore, considerable faith in the adequacy of the statutes made for the government of the new University, and in the quality of the men selected in the first place as members of the Senate.

It would be impossible, for instance, to imagine any Medical School daring to entrust its fortunes to the guidance of the present Senate.

I believe, however, that the principles laid down in the Report will be found adequate, and that if the right men are chosen by Government to guide the fortunes of the new University through the first six years of its life, there is a prospect of having after these seventy-five years of struggle a University worthy of London and a Medical School in the University inferior to none.

Those who oppose these changes will have to show that their opposition is really based on a consideration for the welfare of medicine and the medical sciences, and is not directed by a regard for the private interests of themselves or their Schools. The Report points out that the public are alive to the fact that hospitals founded and supported by charity should be used to the fullest extent for medical education and the advancement of medical science. If hospitals "are required for a University Faculty of Medicine in London which has no end in view but medical education and the advancement of medical science, the public interest must be considered, and the question of the privilege of access to the great London hospitals cannot be treated as a matter of private right, or decided as if they were the private property of the existing Medical Schools."

SPECIALISM IN THE GENERAL HOSPITAL.

THE Phipps Psychiatric Clinic in connexion with the Johns Hopkins Hospital, Baltimore, was opened with the customary ritual of "exercises," speeches, and banqueting on April 16th.

It owes its establishment to the liberality of Mr. Henry Phipps of New York, who some years ago gave a large sum to Johns Hopkins in furtherance of the knowledge of tuberculosis. The cost of the building of the Psychiatric Clinic is estimated at £200,000, and Mr. Phipps has further undertaken to provide for its maintenance during the next ten years and has endowed a professorship. The director is Dr. Adolf Meyer, who during the last three years has been engaged in organizing the clinic, which is now ready for the reception of patients; his staff will consist of ten physicians and some fifty nurses.

Of the addresses delivered at the opening of the new foundation, the most notable was that of Sir William Osler, who discoursed on specialism in the general hospital. He said that, although in 1889 the Johns Hopkins Hospital seemed to many the last word in hospital construction, year by year since then new departments had been added, new lecture rooms, operating rooms, laboratories, and so forth. He recalled the fact that in the address delivered by him when he was leaving Johns Hopkins in 1904 he spoke of the need of special departments, expressing the hope that within twenty-five years they would have a psychopathic institute, a children's hospital, a genito-urinary clinic, and a special building for diseases of the eye, ear, and throat. Two of these were already in existence—the department for sick children, and now the psychopathic institute. Money had been furnished for the new genito-urinary clinic. Others would follow rapidly, and it was safe to say that within a dozen years there would be as many special departments, semi-independent units in a great organization. Each of these units was a place where sufferers received the best skilled help that could be given; each was a place where students were taught, and each was also a centre of study and research. Each unit represented a technical school linked to the university by the Medical Faculty. They differed from the more purely scientific departments of the medical school in one important particular. The

hospital units minted for current use in the community the gold wrought by the miners of science. That was their first function. "Only a cold-hearted, apathetic, phlegmatic, batrachian, white-livered generation, with blood congealed in the cold storage of commercialism, could not recognize the enormous debt which we owe to these self-sacrificing miners of science; and yet there are to-day sons of Belial, brothers of Schimei, daughters of Jezebel, direct descendants of the scribes, pharisees and hypocrites in the time of Christ, who maligned these prophets and wise men, winners in a fight for humanity, unparalleled in the annals of the human race." Dealing more particularly with the new institute, Sir William Osler went on to say that the progress in the rational treatment of insanity was a bright chapter in the history of the past century. On the other hand one of the tragedies of the subject had been its dissociation from centres of active professional and university life. A department of medicine with the closest affiliation with the life of the community had been segregated and stamped with a taboo of a peculiarly offensive character. At Johns Hopkins it would take its proper place as a unit in the work of the medical school of the university. A new atmosphere would be diffused, a new group of energy and activity would come into the hospital which could not but be helpful. The medical student, living as he did in close fellowship with the hospital staff, would be influenced in this way by the very presence of the institute. It was to be hoped that time might be found for general instruction of the senior students in the elements of neuro-psychology. To a large class outside the institute it should prove immensely beneficial. He estimated that there must be a thousand or more assistants in the asylums of the United States whose pineal glands were not yet crystallized, and who should find there inspiration and help. He expressed the hope that room would be found for the general practitioner, through whom more than any other group the benefits of the institute would be distributed. The doctor in general practice needed enlightenment as to the vast importance of early deviations from normal mental states, instruction in new methods of diagnosis and treatment, and encouragement to feel that in the great fight for sanity in the community he was the man behind the guns. Men talked a great deal about the human mind, and when cornered quoted Hamlet to cover an unpleasant ignorance of its true nature. The modern student, like the ancient, took his stand either with Plato and compared the mind and brain to a player with his musical instrument, or with Lucretius to a musical box wound up for so many years to play so many tunes. Modern authorities leaned to one or other of these views. Three things they did know: Departures from normal mental states were extraordinarily common; they were the most distressing of all human ills, and they should be studied systematically by experts with a view to their prevention and cure. A widespread feeling had arisen that the hygiene of the mind was just as important as the hygiene of the body, that they must return to the Greek ideal of the fair mind in a fair body. He was afraid several generations must pass before they saw any practical result of the present active eugenic crusade. But there was an immense and hopeful work to be done in educating parents in training-stable methods. The orator expressed his confidence that the psychopathic institute would play its part in the national campaign of prevention of mental ill health through education, a campaign as important to the public as the great struggles against tuberculosis and infant mortality. It would be helpful, too, to study in a sane, sober, and sympathetic way epidemics of mental, moral, and even economic folly as they swept over the country. The present outbreak had not been equalled since the capture of the Roman world by oriental cults. The same old-fashioned credulity existed that enabled Mithras and Isis, Apollonius and Alexander, to flourish then as the new cults did to-day, and for the same reason. There was still potency in the protoplasm out of which arose in primitive man magic, religion, and medicine. So recent was the control of the forces of Nature that even in the most civilized countries man had not yet adjusted himself to the new conditions, and stood only half awake rubbing his eyes outside Eden. Still in the thaumaturgic state of mental development 99 per cent. of their fellow creatures when in trouble, sorrow, or sickness, trusted to charms,