MEDICAL EDUCATION AND EXAMINATIONS.

BY

JOSEPH GRIFFITHS, M.C., F.R.C.S.,

SURGEON TO ADDENBROOKE'S HOSPITAL.

THE interest taken at the present time in medical education prompts me to write my views upon it and upon examinations. My experience as teacher and examiner has given me opportunities to observe the defects as well as the advantages in each, and I hope that my observations may be of some help to others to formulate their conceptions upon what must be of the greatest importance to the future of medicine.

With the revival of learning, and especially with such immense expansion of the range of knowledge as was seen during the first half of the nineteenth century, it was found that just the acquisition of manipulative skill was insufficient to make the apprentice a doctor. Consequently a demand arose for more knowledge of a kind the apprentice could not as a general rule obtain first hand. Gradually there came to be established lectures on anatomy and physiology, medicine and surgery, supplementary to the manipulative training; and these were attended in those early days by young men who had passed or were passing through their apprenticeship, and who had acquired almost the whole of their technical training, and had become familiar with all sorts of diseases and accidents and the way they were treated. These pupils, having already the knowledge that comes of actual contact with things, could understand what the lecturer was talking about and follow his reasonings, and could appreciate his remarks about the natural course of this or that disease, and enter fully into any detail of anatomy which gave explanation to a phenomenon already familiar but incomprehensible to them.

About the middle of the nineteenth century a most important change occurred—a change which completely altered the point of view medical men held with regard to the training and the making of a doctor. The chief result of this change was to promote further development in the medical schools in the different centres, and at the same time weaken the training given to the apprentice. As the schools extended, teachers had to be found—teachers who could collect, systematize, and rearrange knowledge from all sources. The demand soon met with an adequate response. The teachers, ever mindful of the importance of their own part of the work—as is but natural and right—increased the range of their sphere until at last it has become so great that in the ordinary period of five years allotted to a medical student it is not possible to grant sufficient time for each and all of the teachers to give to the students the knowledge they have gathered from the works of former masters, from their own labours, and from current literature. The imparting of that knowledge, which each teacher thinks is necessary for the proper training of a doctor to-day, more than occupies the field, and the difficulty now is to limit the sphere of the teachers so that a medical student shall acquire the sound and established portion of this knowledge all are so eager to impart to him, and, in addition, a modicum of that manipulative skill which later on in life is what he will depend upon for success. The growth of the lecture system has extended beyond what is reasonable. Time was when a lecture was given to supplement knowledge gained by practical acquaintance with real things, but to-day a lecture is often given so that the student of medicine may have knowledge stored either in his notebook or in some remote and hidden portion of his brain, often, it is sad to say, inaccessible to himself as well as to others. A huge organization has developed around this system, and it will not be an easy matter to make necessary changes—changes that will bring medical education back to a point where a technical training amongst the patients and in the laboratory forms a basis which needs only to be supplemented by lectures. This is, I believe, the goal that will sooner or later have to be reached, and, so far as I can see, the sooner the better.

The education of the medical student naturally divides itself into two parts: A general education in the natural sciences, together with a particular education in anatomy and physiology, and an education in all the subjects embraced in medicine.

I.

It is, I think, universally acknowledged that it is not desirable to attempt to give a student destined to become a doctor a comprehensive education in comparative anatomy, in botany, in chemistry, or in physics; nor is it to the advantage of a doctor to spend such time as would be necessary to acquire a sound general knowledge, together with all the established facts and the hypothetical views of the construction of the human body; nor, indeed, is it profitable to load or endeavour to load an impressionable brain with all the speculations, often indulged in by men of great learning and experience—speculations in physiology—in addition to the truths revealed by experiment and observation. Nevertheless, it is beyond dispute that a good general knowledge based upon practical work done by the student himself in the natural sciences may be made an invaluable instrument for training in manipulative skill, as well as in the development of the mind.

At present the education is stereotyped and each student is compelled to go through the stereotyped course and it alone. In order to show how absurd it is to insist upon a stereotyped education for one and all, it is only needful to take an example from the University of Cambridge. A student who has, let us say, taken up the study of chemistry, comparative anatomy, human anatomy, and physiology, and who after three years' study has obtained a first class degree in these subjects, finds that at the end of this period he, for some reason or other, desires to enter the profession of medicine. Such a man, without any doubt whatsoever, is better trained and better educated than the majority of the medical students. But all is of no use, for such a man must attend courses of prescribed length, and must pass examinations which we know are not so good as the one in which he has already attained, perhaps, the highest distinction, before he can enter upon the study of medicine.

To my mind, the evils attendant upon prescribing exact courses of study for the medical student are far greater than those that may possibly arise from insufficient knowledge, and one of the first steps to take in reform is to give the medical schools complete control over all the training up to the end of anatomy and physiology, and to throw upon them the responsibility of certifying the pupils as fit and proper persons to enter upon the work at the hospitals. The machinery for the training should be under the supervision of the General Medical Council in order to ensure that every facility exists for the necessary training of each student.

II.

Is not three years sufficient time to give a student training in all branches of clinical work, and to give him, in addition, all the sound knowledge concerning that work? Unhesitatingly I answer, Yes! All that is needed to carry this out is that the training shall be definitely arranged, step by step, that each pupil should undertake successively the work of each step, and that he be certified as to proficiency in that portion of the work before he proceeds to another. All the great hospitals that are at present clinical schools could, with a little modification of what they do at present, carry out such a plan. Of course under such a system no hospital could take more pupils than it could occupy, and there would be no room for the looker-on in such an institution. Naturally the General Medical Council would be the body to determine how many pupils a hospital could train—that is, the capacity of the facilities, both in laboratory and clinical work, would have to be determined.

III.

There is only one more point which I wish to refer to, and it is this: Which is the portion of the training of medical men that the General Medical Council should concern itself especially with? Clearly the most important portion of a doctor's education is concerned with the acquisition of skill in the diagnosis and in the treatment of disease. This for all practical purposes is technical work in its best sense. The General Medical Council should be as sure as it reasonably can be that each doctor possesses that degree of skill which those experienced in practice find to be necessary for the proper treatment of man and his diseases. One and all of the examining bodies now existing—corporations as well as universities—could perform

the duty of testing the students at their work, and by a simple arrangement a uniform standard, though not necessarily a stereotyped one, in the technique of medicine could be established and then maintained throughout the country. The "doctor" would receive the stamp that he possesses a sound technical training and a substantial knowledge of medicine, and I have no doubt he would be a better man than the one who now finds himself licensed to practise.

In instituting such examinations certain principles underlying their proper conduct should be kept in view, and to my mind these principles are embodied in the following:

1. That the examination should be a test in the work actually done by the student.

2. That it should be conducted where the teaching was undertaken.

3. That the test should be applied at the end of each complete course of training.

4. That the Board of Examiners should consist of at least three persons—namely: (1) The teacher; (2) a representative of the corporation or university the student is attached to; and (3) a representative from the General Medical Council. The duties of the first two should be to conduct the examination and to award marks, the duty of the last to see that a due standard of proficiency in all the technical portions of the work is attained by each candidate.

If this were done it would practically mean the establishment of a "common State qualification" having a standard in technique that must be attained by all who desire to enter upon the duties of the profession of medicine. All would then be doctors in the ordinary acceptance of the word, and a new title might be created. We should then no longer have the L.S.A., the M.R.C.S., L.R.C.P., etc., which in reality mean nothing much more than that an examination was held in one part of the kingdom, another in another, a third in Scotland, and a fourth in Ireland, and so on. Rivalry in examinations is not worth any trouble expended upon it, but rivalry in teaching in the different schools means everything to the doctors, and in the end to the public they will serve.

I can almost hear some of those who will read this cry out, "What will become of the universities, old and new, and the royal corporations under such a scheme?" Well, I think all that need happen is that these bodies turn their attention to the further encouragement of learning in all its branches, and to show their graduates that an ordinary State qualification, though sufficient to give all the State privileges, just gives all that which is necessary and not all that which is known and may be desirable. By further study useful knowledge may be gained, and I would reward men who carry their studies further by establishing degrees in the science of medicine proper, in that of surgery, in that of midwifery, and in that of hygiene. The examinations for such degrees would not be hampered in any way whatsoever by the General Medical Council, for it would have no business with them.

CONCLUSIONS.

In conclusion it may be well to collect my suggestions:

1. The General Medical Council to throw upon the medical schools the responsibility of training and certifying the medical student as a fit and proper person to enter a hospital for training in clinical work; the machinery for giving such training to be under the inspection and supervision of the Council, so as to ensure that each medical student is given facilities for proper training.

2. The clinical training to extend over a period of three years, and each student to be examined in the work done at the end of every complete course.

3. The certificates for each course to form the record of the student, and as soon as all certificates are duly filled the student to be entitled to State registration and to all the privileges such protection affords.

4. The universities and the royal colleges too, to encourage the best men to continue their studies and to proceed to examinations to test especially the quantity and quality of their knowledge in any branch, and to grant degrees, say, in the science of medicine, in that of surgery, of midwifery, and of hygiene, or whatever else may be thought desirable.

ABDOMINAL SECTION UNDER SPINAL ANALGESIA, WITH OR WITHOUT THE AID OF GENERAL ANAESTHESIA.

WITH NOTES OF SIXTY-FIVE CASES.

BY

LAWRIE MCGAVIN, F.R.C.S.ENG.,

LECTURER ON CLINICAL SURGERY IN THE LONDON SCHOOL OF CLINICAL
MEDICINE, AND SURGEON TO THE DREADNOUGHT HOSPITAL
AND THE HOSPITAL FOR WOMEN.

ALTHOUGH the intraspinal application of drugs is rapidly taking its place as a recognized and approved method of anaesthesia, and has, so far as the rectum, bladder, groins, and lower extremities are concerned, largely replaced general anaesthesia in certain hospitals, it has not as yet proved itself absolutely satisfactory in all cases when applied to abdominal surgery. The extraordinary efficiency of such drugs as stovaine, novocain, and tropacocaine in the abolition of pain during operations on tissues governed by the systemic nervous system is to a certain degree lacking when the internal organs are submitted to operation under its influence. The results are uncertain, especially with regard to the depth of analgesia, and this uncertainty appears to be due rather to individual characteristics of the subject than to the variety of drug used, its particular dose, or to the height to which it is pushed. Thus two different patients of the same physique submitted to similar doses of the same drug, and exhibiting systemic analgesia to a similar height, will often, when the abdomen is opened and the organs are submitted to very much the same degree of manipulation, react in a totally different manner. For one may experience no discomfort whatever, while the other becomes nauseated and complains of dragging pain in the chest, which, for lack of a better term, I have called "pectoralgia"; one will require nothing but the injection already given to complete his operation, while the other will require the assistance of a slight amount of a general anaesthetic. Whatever else this diversity may be due to, it is certainly largely determined by individual sensibility, racial characteristics, the element of sex, and that of neurosis. The upper regions of the abdomen especially appear to be only slightly controlled by the intraspinal injection, even when the analgesia of the systemic nerves is fully established to a height above that which corresponds to the rami communicantes of the splanchnic area involved in the operation. Thus the analgesia may be pushed to the clavicles, and yet a gastro-enterostomy may be impossible of accomplishment. That this is not due to interference with the vagus terminals is shown by the fact that the same sensations at times attend the handling of other organs not supplied by this nerve.

These sensations of nausea and pectoralgia are especially evoked by traction upon or the application of pressure forceps to the parietal peritoneum, the stomach, the mesentery, and upper portions of the intestinal tract. Even in a simple exploratory laparotomy discomfort may be present all the time the abdomen remains open, being aggravated by the passage of the hand to its different quarters, and ceasing at once upon its closure. This would seem to point to the existence of a hyperaesthesia of the peritoneum rather than to a hyperalgesia of the organs themselves.

The lower half of the abdomen is much less affected than the upper, and most operations can be completed here without difficulty; but even here one meets occasionally with a refractory peritoneum, and a simple appendicectomy may require a brief period of general anaesthesia.

So far as I have been able to ascertain from a perusal of my own cases and from those of other surgeons, nausea and pectoralgia are the only two symptoms of any importance at all constantly associated with dragging upon or compression of the abdominal organs. I have certainly seen a slight fall of blood pressure and diaphoresis, but only occasionally, and not in any way associated with shock, being quite temporary in character; and indeed it is doubtful if these latter symptoms are in any way due