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THE CHOICE OF A CAREER.

(9) MEDICAL RESEARCH AS A CAREER.

By SIR EDWARD MELLANBY, K.C.B., M.D., F.R.C.P., F.R.S.

Secretary of the Medical Research Council.

THOSE engaged in medical research must form such a small fraction of the medically qualified that the writer wonders whether an article on the subject can have much general interest. If the number were doubled this fraction would still be small and, unless medical science undergoes an expansion at present unforeseen, or unless there is a sudden ingress of exceptionally able students into research, there is probably not room even for this development.

It is of course true that in recent years there has been a great increase throughout the country of laboratories for the study of clinical pathology, and that these laboratories ought to, and do, form centres for medical investigation; even so, their numbers and the opportunities they afford for research are limited, and they will probably never absorb much larger numbers of medical men. It is undoubted, however, that the present difficulty experienced in filling these laboratory posts indicates a real shortage of suitable men. There is, moreover, a great dearth of medical scientists of the highest standard in all countries and in all branches of the science, and no one with the proper equipment need fear any difficulty in obtaining an excellent position and a satisfactory living in medical research. If, therefore, any man of the right type, of good ability, with the instinct for discovery, wishes to enter the field, he can do so with assurance.

It will be asked—what is the right type of man? This of course involves two considerations: one, his character and ability, the other, his training. Up to a point, the greater his ability for research, the less important is the training. It will usually be found that the successful investigator is a man of character with a high standard of behaviour, hard working, intellectually honest, and critical, especially of himself. If, added to these qualities, he is a man with a natural instinct and desire to add to knowledge by finding the causes of things, he is the man who will probably succeed in medical research.

As regards the kind of training which best fits a man for

medical research, it is almost impossible to speak in any categorical fashion, and the field of inquiry is now so great that broad or narrow, intense or superficial forms of training are all compatible with first-class discovery by the man with the right mental equipment. For the laboratory investigator, unless indeed he be interested in observation alone and not primarily in experiment, modern developments make it almost essential that the entrant should have a knowledge of chemistry, physics, physiology and pathology. Twenty or more years ago, a bacteriologist need have no knowledge of chemistry and physics, and even the physiologist could attain the highest success with little more than a smattering of the basic sciences. The pathologist was generally a man who turned to science after taking his medical degree, simply because he did not wish to practice medicine. These days are rapidly passing, and it is of enormous advantage to the modern physiologist and pathologist to have a sufficient grip of chemistry and physics at least to know when to seek the help of specialists in these subjects.

Prophecy is as dangerous in science as in most other walks of life, but the general trend of advance in medical science indicates that all branches of experimental pathology are to have their golden age in the near future. A properly equipped pathologist must have the fullest training in those branches of physiology which bear on his own studies. Incidentally the physiologist would often be much more effective if he had a sound knowledge of pathology. It is indeed becoming more and more clear that all these experimental medical sciences are really one subject.

The ultimate, but by no means the only, aim of medical science must be the elimination or control of disease in man and the development of his mind and body to their fullest innate maxima. This is the special field for those whose first interests are clinical science, although, of course, it is generally true that the clinical investigations which lead to a medical discovery applicable to man are often preceded and indicated by laboratory studies. Clinical science will probably always represent, in the main, the culminating developments of those sciences which lend themselves more readily to experiment. There is no doubt, however, as indeed Sir Thomas Lewis and his colleagues at University College Hospital have shown in their researches on the cardio-vascular system, that the investigator of clinical science can regard his field as an independent entity if he so wish, and study the reactions of a sick

man just as the laboratory worker can investigate the reactions of a cat or dog.

Who will make the greater contributions to medical science—the laboratory worker with his eye on human disease, or the clinical investigator with a firm grip of the basal sciences—only the future will reveal. There is unlimited scope for both. It is not easy to persuade the good investigator to make a direct attack on disease either by laboratory or clinical methods, or by both together, partly because such problems are particularly difficult to study as compared with those of purely academic interest, but also partly because there is a widely held, but erroneous, belief that all the big advances of knowledge come like thieves in the night out of so-called disinterested research. An investigation directed to a practical problem of disease is just as likely to lead to fundamental knowledge of biology as the academic study is likely to lead to knowledge of direct service to man. This fact has been demonstrated again and again in recent years.

There remains the practical question as to the means of getting a chance to achieve a career of medical research. The method commonly adopted after qualifying is to enter a laboratory either in a medical school or university. It is most desirable for entrants into medical science to fill some resident posts before leaving clinical work, even if their future is to be spent in a laboratory.

As demonstrators or lecturers able men can usually do some research, and, if they are at all successful, they often get a chance to do whole-time research with grants from the Medical Research Council, or as Beit Fellows, or with endowment from other sources. In order to give young qualified men with no experience in medical research the opportunity of obtaining some training and experience in experimental pathology or clinical science, the Medical Research Council now provide a number of research studentships annually. The same body have also initiated several studentships to attract young men into the field of research in tropical medicine. These are so arranged that the first year is spent in studying tropical medicine, and subsequently the student can study research methods in tropical disease, first in this country and then in the tropics. There is a great opening for good work in medical science in the tropics, and the policy of the Medical Research Council is to cultivate this field assiduously and to look after those who show promise in work of this nature. Developments during

recent years are making access to medical research much more easy than was formerly the case, and successful efforts are being made to secure the future of those entering this field of study and even to help those who, having tried their hand, wish to return to ordinary medical work.

There are undoubtedly many men with fine qualities and aptitude for research who do not take up this work seriously because they recognize that the successful investigator generally has to forego certain social advantages which can be easily procured in other branches of medicine. Discovery is a hard task-master, and it is usually necessary for those who take up the burden to cut themselves off from much social life and eschew many of those activities which are often regarded as essential for happiness. Up to a point research involves asceticism, but those who think that such asceticism means unhappiness are utterly wrong. There is a satisfaction and a sense of happiness associated with research, especially successful research, which I do not believe can be equalled in any other calling. Even apart from success, the thrills of joy which constantly recur, often and indeed generally quite unjustified, when a new observation is made and a new line of inquiry presents itself, are something which brighten the labour and life of the investigator to a degree which cannot be described. The life of one engaged in medical research is an enviable one and needs no sympathy from those who attach importance to ordinary standards of worldly success.

(10) PSYCHIATRY.

By AUBREY J. LEWIS, M.D., M.R.C.P.

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PSYCHIATRY is becoming more and more a specialty in which it is perilous, if not ruinous, to be ignorant of what lies outside one's strict field. Whatever the kind of psychiatric practice which the aspirant means to take up eventually, he will be wise to equip himself with an all-round knowledge, not only of mental disorder, but also of medicine in general, and neurology and clinical endocrinology in particular. A house-appointment in a general hospital, with its experience of medical responsibility, will consequently be a necessary preliminary to psychiatry. Some general practice may also be an asset, though if one proposes to make one's career in a mental hospital service it is well not to delay one's entry into it