reached us, *The Income Tax for 1920-21: Rates, Relief, Repayment*.⁴ As an explanatory pamphlet dealing with the allowances to which a taxpayer is now entitled it is deserving of praise; the phraseology is clear and the printing excellent, but, after all, the official memorandum which is issued with the forms of return and notices of assessment is reasonably intelligible, and is apparently free from the few minor inaccuracies which we have found in the handbook in question. What a taxpayer really wants is assistance in preparing his computation of gross liability rather than a guide to tell him what allowances should be made in assessing him on that amount of income, and in this the average handbook necessarily fails. Business and professional activities are too manifold in character to-day to be dealt with as a whole and within the very narrow limits implied by a small handbook dealing with allowances, relief for Colonial taxes, and claims for repayment. In the handbook referred to, for instance, there is little to assist a professional man in the task of calculating his income for tax purposes, though it explains that alum works are assessable on the profits of the previous year, and that repayment can now be claimed on the 6 per cent. dividends payable on the income debentures of the Underground Electric Railways of London, Limited.

Another little handbook on somewhat similar lines is the *Financial Times Income Tax Guide, 1920*.⁵ Within the unavoidable limits of space a great deal of clear and useful assistance is given in the understanding of the new procedure. The author includes a summary of the former income tax regulations, but would have been well advised to drop the use of the word "current" in doing so; its use is misleading, and—as, for example, in the paragraph on farmers' tax—involves a rather serious misstatement with regard to super-tax. The *Guide* states that "the question of special reliefs in respect of service men is not apparently altered by the present Act." We doubt the accuracy of that statement, as the special reliefs required specific re-enactment to maintain their existence, so that the silence of the Finance Act 1920 on the point seems to imply their cessation. Apart from these and one or two minor blemishes, the author has done his work well and given good value for the modest price demanded for the *Guide*.

We much prefer the method of dealing with the problem adopted by the writer of a pamphlet entitled *Doctors' Income Tax*.⁶ By dealing separately with a distinct species of income—in this case professional profits, and especially those of medical practitioners—it is possible to convey really useful assistance in the preparation of a return of income. The pamphlet is succinct, and the examples given are chosen to bring out the explanations clearly. It is accompanied by a draft calculation sheet ruled to serve for the computation of three years' profits, with cross-references to the notes in the explanatory pamphlet. On one point we find ourselves at variance with the writer. He says: "When from any cause a motor has to be replaced, the cost of the old one, less any sum realized for it, is to be charged as a working expense. The cost of the new one is excluded." In our view, if the new car is similar—or at least no better—in power, capacity, and general grade to the car replaced, the amount allowable is the difference between the cost of the new car and the amount received for the old one. That view appears to have been endorsed by the recent Royal Commission, and in these days of high-priced cars the point is of some importance.

NOTES ON BOOKS.

As a handbook and guide for tuberculosis nurses, health visitors, and others who have to do with this disease, Dr. MEACHEN's little book, *Tuberculosis*,⁷ will be found to fulfil a useful purpose. The writer fully recognizes the fact that under present conditions it is only possible to deal effectively with the individual patient. The disease

itself progresses as freely as ever in the community. Hence the greater part of the book is devoted to the description of the various means that have been found useful in dealing with the established disease as it presents itself in daily practice. Most of it will probably be already well known to trained nurses and visitors, but it contains many valuable hints that are apt to be forgotten in dealing with the many domestic difficulties that must arise from time to time. The advice given is on the whole most judicious and very clearly expressed; it may be cordially commended to the notice of those for whose assistance it has been written.

A second edition of Dr. J. B. MENNELL's useful volume on *Massage: Its Principles and Practice*,⁸ has been published, completely revised by the author. Notwithstanding the legion of books on massage published during the last decade, Dr. Mennell's work still fills a niche of its own, as it emphasizes principles more than details of treatment—not that it neglects detail either in the text or in the many admirable illustrations. The author thus addresses himself more to the medical man than to the masseur, for the day is past when "try a little massage" (after trying everything else) was enough direction on the part of the physician or surgeon.

The twenty-ninth edition of *The Annual Charities Register and Digest*⁹ has now appeared. This most useful work of reference is issued by the Charity Organization Society. The information is classified on a convenient plan, and there is a full and careful index.

⁸ *Massage: Its Principles and Practice*. By James B. Mennell, M.A., M.D., B.C. Cantab. With an introduction by Sir Robert Jones, F.R.C.S. London: J. and A. Churchill. 1920. (Demy 8vo, pp. xvi + 536; illustrated. 21s. net.)

⁹ *The Annual Charities Register and Digest*. Being a Classified Register of Charities in or available for the Metropolis. Twenty-ninth edition. London: Charity Organization Society. 1920. Pp. 611. 5s. net.

THE INTERNATIONAL PROBLEM OF MEDICAL EDUCATION.

BY

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THE discussion which took place at the meeting of the Education Section of the British Medical Association on July 1st at Cambridge was important, and specially so to a stranger like the writer of the present article, since the debate ran on lines so familiar to him that, apart from a few details, he might have believed himself listening to a debate taking place in his own country. Never was the substantial identity of the problems of medical education so evident; and even if the well known and charming English courtesy and the friendly welcome of his colleagues in the university had not in themselves brought home to him the strong ties uniting the members of all universities, the discussion on Medical Education alone would have convinced him that in respect of the substance of the didactic and educational problems of medical university education no difference exists between countries on the same level of civilization and culture.

As a veteran in my profession, I was convinced years ago of the necessity of a reform of medical studies which are still being woven on the old loom that may have been good for the fabric of half a century ago. However great the elasticity of the organization of university studies to permit an adaptation to the gradual changes in science and its application, yet in all that concerns the whole body of sciences which constitute medicine such an adjustment was bound to prove unsatisfactory. The main reason is that the changes and improvements which can be introduced into the university curriculum presuppose corresponding changes in the preparatory studies in secondary schools. These schools remain unaffected by the movements which determine the continuous changes taking place in the universities, and tend, therefore, to remain rigid or to reform themselves only in conformity with such general humanistic culture as is considered sufficient to bear the superstructure of university teaching. When the student reaches a certain age, say 23 or 25, the practical application of studies and the strain of economic factors—hitherto absent—press for the shortening of the preparatory stages and for placing him into a position to derive immediate profit from intellectual labours carried on for many years. Moreover, the character of the secondary school, interested in the past rather than the present or the future, has produced the

⁴ F. C. Mathieson and Sons, 16, Copthall Avenue, E.C. 2. Price 2s.

⁵ Published by the Financial Times, Ltd., 72, Coleman Street, E.C. 2. Price 1s.

⁶ Philip Sulley, 27, Rutland Square, Edinburgh.

⁷ *Tuberculosis*. By G. Norman Meachen, M.D., B.S. Lond., M.R.C.P. Lond. and Edin., Tuberculosis Officer, County Borough of Southend-on-Sea, etc. Pocket Guide Series. London: The Scientific Press, Ltd. 1920. (Pp. 124. 1s. 3d. net.)

universally regretted split between it and the university. The university has therefore been obliged to fill the gap with elementary preparatory instruction which is outside its scope and naturally prolongs the duration of the courses.

What is therefore required is a reform of the secondary school teaching. This is the fundamental point on which all who took part in the discussion in the Education Section agreed. Although no such substantial agreement exists between the English secondary school and what in Italy is called "scuola media" as was found to exist concerning the needs for a reform of the studies directed to producing the medical practitioner, the man of science, or the research worker, the solutions proposed are the same in both countries. The secondary school should include certain kinds of instruction which at present are given at the university, and should impart to the prospective medical student certain fundamental notions of chemistry, physics, and biology, together with mathematical teaching so far as may be necessary for the ordinary current use of mathematics in experimental science. It is not, in my opinion, necessary to develop special classes for medical or engineering students in the secondary schools; it is sufficient that, once a certain stage of literary, philosophical, historical and classical education is reached, two main divisions are formed, the one providing the basis for literary, philosophical, and juridical studies, the other leading up to instruction in the positive and experimental sciences generally.

This is precisely what is asked for as a first reform of medical studies in England; it is precisely what I included in certain proposed reforms of medical studies in Italy, and published at the end of 1911 in the *Corriere della Sera*.

There remains, then, the question of the changes desirable in the university courses which a student, properly prepared, would begin at the age of about 18. Here, again, the bulk of the conclusions reached by those competent to judge in England are identical with those formulated in the series of articles just quoted. Intrinsic considerations suggest the introduction of courses of physics and chemistry specially directed to the problems of biology and the applications of medicine; of a course in general biology, which (in the place of the courses of botany and zoology, some of which are antiquated) should aim at giving the student exact notions concerning the science of life, co-ordinating and relating all functional and morphological phenomena, and elaborating laws applicable to physiological as well as pathological conditions. The subject of this biological course should be the general laws of evolution and heredity, and the phenomena due to the interference in the development of organisms accidentally in contact and mutually influencing each other. In this manner the course in general biology would present a great synthetic picture in which the separate medical sciences appear as constituent parts, and all the applications of medicine to any particular disease and to the development and well-being of man appear as episodes, and can be grouped in social complexes. In any perfectly organized system of teaching every single line of study should keep count of its function as an integral part of general biology, and should take every opportunity to emphasize the links, already discovered or yet to be investigated, connecting it with the other sciences. In this way it would be possible to combat the existing habit of watertight compartments, which is justly deplored as one of the grave disadvantages of the present system of teaching.

In this connexion I can quote an instructive experience: At the end of the war a large number of young ex-officers returned to our medical schools in Italy, and the problem was how to give them an education that would fill the gaps in their knowledge as effectively and quickly as possible. The Ministry of Public Instruction, rightly anxious not to place these students at a disadvantage by causing them to lose altogether the years spent at the front, had arranged for them to take shortened courses of a value equal to the usual annual courses. But they had not ventured to shorten the stages devoted to the primary scientific teaching—namely, anatomy, physiology, general pathology and pharmacology—so that the advantages of the shortening of the courses were finally lost, or the attempt to graft instruction upon these primary stages of the study had to be abandoned. In the University of Turin the professors of the above-mentioned subjects, desiring to safeguard the interests of their students, held a meeting at which they drew up a programme of their courses, with a special view to the order of instruction essential for the medical man and of fundamental importance for his education; they settled the lines of demarcation between their respective studies and divided between themselves the borderlands lying between science and science, thus avoiding the overlappings which usually

occur, and are after all by no means devoid of usefulness, because they involve discussions which, presenting different points of view, have a special utility. The result of our efforts was excellent; we had the proof of it in the examinations—a proof which may be disputable in an isolated instance, but is convincing in large numbers; and the system of teaching, less formal, more conversational and wider, was much liked by the students, who admitted having derived great benefit from it, as it cleared their ideas and served as an introduction to future studies.

Another point is to be borne in mind—namely, that the teaching should aim at producing a good type of general practitioner, competent to deal with the ordinary ailments, and possessing in respect of certain special diseases that modicum of knowledge necessary for their diagnosis and required for a first treatment before passing the case on to a specialist. Now, it is generally recognized that five years of study suffice to produce a good type of general practitioner, always provided that secondary schools take over in part the preparatory instruction which at present falls upon the first year of university teaching. The additional knowledge required by the intending specialist ought to be acquired only after the standard of the general practitioner has been attained. The universities ought, according to the means at their disposal, their condition and traditions, to be able to provide a good theoretical and practical instruction in all branches of medicine. But what ought to be put an end to is the present state of affairs, certainly not very reassuring, in which a few more enterprising men set themselves up as particularly expert in certain branches in which their competence is anything but proved. This is the solution which the "Superior Council of Public Instruction" in Italy recommended to the Minister, and from the results of the discussion at Cambridge it appears to me that this system in its general outline might also be adopted in England.

When we come to examine the problem of medical education in its external aspect, it seems to me important to point out that in England, as well as in Italy, it occupies far more the attention of those engaged in teaching scientific subjects than those engaged in clinical practice. If we consider, for instance, the papers circulated in proof for the meeting of the Education Section at Cambridge, of which only a few were amplified by verbal communications by their authors, we find that, apart from the admirable introductory address of the President, Sir George Newman, they all discussed the question from different sides—from its zoological (Hickson), anatomical (Keith), physical (Rutherford), pathological (Lorrain Smith), and chemical (Smithells) aspects. The teachers of the scientific branches of the first three years are also in Italy much the most active in proposing reforms. What is the reason? There may be two; perhaps reforms appear specially desirable in the scientific and preliminary part of the curriculum; or perhaps the explanation is a certain indifference on the part of the clinical teachers towards the problems of medical education. Both reasons may be operative; but we must, above all, remember what the history of medicine teaches us—namely, that the discoveries which advanced medicine and have remained as a permanent acquisition, even on the practical and curative side, were always directly derived from scientific research in the physical-chemical and biological branches. This is the soil from which medicine in all its individual and social applications has sprung, and it is intelligible that the exponents of these constructive sciences should be the first to suggest the rational use of the materials on which they work; that they should regard with a certain diffidence the structure of traditional medicine as it is understood and accepted not only by the layman but also by the practising doctor; and that they should be anxious to rejuvenate the systems of instruction as in time they become obsolete, and to modify the whole of its structure, though it may be venerable in point of age and be found convenient by routine in the eyes of practical medical men, especially of that large number who are unable to add to the heavy burden of their professional work by trying to keep up with the continual progress of biology and experimental science.

Under these conditions, essentially human and explicable by the interference of various factors, partly working in opposite directions but of equal force, emerge ever more luminous the figures of those great clinical teachers who in the midst of the attractions of medical practice and of a reputation justly acquired among the public, have preserved the clear sense of the essence and functions of medicine as an evolving scientific organism and not as a rigidly dogmatic system. The figure of Sir Clifford Allbutt is eminent especially in this sense, and his manner of understanding the task of modern medicine and its renaissance is proof of the width of his outlook. But such

men are rare; yet with the weight of their authority they are able to shift the balance of public opinion in favour of that reform of medical studies which the professors of the scientific branches of the medical faculties regard as essential. I have known another clinical teacher who was always guided in his teaching by the complex studies pursued in the field of physiology, pathology, and pharmacology, and founded a medical school famous for its pupils—Professor Camillo Bozzolo, who taught general clinical medicine in the University of Turin, and died within the last few months.

As the result of the foregoing explanations one important conclusion seems to me worthy of being emphasized. It is that two nations, not immediate neighbours, who, however, both played a most important part in the history of medicine, are agreed not only in recognizing that the education imparted to the medical man does not correspond to the present state of science and to the position due to the medical man as a coefficient in individual and social well-being, but in pointing out the measures which are called for to remedy a state of things which in the long run may prove definitely harmful. If the recognition of the present defects can in itself not claim to be a complete diagnosis, it is at least one element needful for the understanding of the evil, and if in addition, as I believe I have shown, there is also agreement on the system of a cure, we cannot, I think, call the ultimate success in doubt. All depends on whether we dispose of the necessary means. In this case they must be furnished by provisions which do not all lie within the compass of university organization, but require the assistance of the State and of the bodies in general charge of education.

The question, therefore, assumes the importance of an affair of State, a political character, and must appeal to action of a higher and wider order, must, above all, be supported by an enlightened public opinion—an opinion exceeding the limits of any one State, seeing that what is at stake is a civil, cultural, and social interest common to all nations. As regards the remedies, their selection, their preparation and extent, international agreement has already been reached. It appears, therefore, all the more opportune to extend these agreements to the exact definition of what is meant by "medical man" and to his education. Henceforth different types of medical men should no longer be permitted in the different countries, because this diversity can, after all, be but the gradations of one intrinsic value. Hence it would be desirable that, on the basis of concrete proposals such as have been put forward perfectly spontaneously in different countries, an attempt be made to adopt measures which, without being absolutely uniform, without fettering in details the tendencies, traditions and habits of work of any nation, without, in short, interfering in any way with the special aptitudes of the national mind, should yet lead to producing everywhere the best possible result in medical science and in the art of healing.

It is in this sense that I believe I have not made any new proposal, but have indicated the need for a preliminary international understanding among those who have devoted themselves to the problem of medical education, are conscious of its importance, and are fitted by experience to contribute to its solution. It is not a question of bringing together round a table another diplomatic conference—Heaven forbid!—of men, each having *in petto* a number of personal claims, and resigned with a bad grace to see them worn down in conflict with those of others. No; what is needed is to bind together into one sheaf forces which at present are already conscious of agreeing on the direction of their action, if not upon its intensity, but are as yet acting in isolation from each other. Sir George Newman is singularly fitted by his position to judge if and how a step in the direction indicated might be attempted. But, more than by his position, his competence is to my mind proved by the admirable Memorandum, which is to me the clearest and most convincing exposition of the present state of medical education in general and of the reforms which should be introduced, although the title of his book, *Some Notes on Medical Education in England*, appears to limit his observations to that country. That little volume, written with much knowledge and much love, should be in the hands of everyone who wishes to deal with this subject; it has most opportunely been confirmed and completed by the arguments developed by him in the Presidential Address which opened the Section of Medical Education at Cambridge.

THE congress of the Royal Institute of Public Health next year, which will be of an international character, will take place in the University of Geneva from May 10th to May 16th, 1921.

MEDICINE IN THE SCHOOLS.*

(Concluded from page 761.)

THE MEDICAL STAFF.

By the end of 1919 the school medical inspection staff in practically all areas had regained at least pre-war strength, so that with few exceptions local authorities found it possible to undertake the whole of the statutory inspections. Of 5,118,000 children attending public elementary schools, 1,800,000 were examined. In the year ending March 31st, 1920, there were, excluding the specialists employed at the London school treatment centres, 1,630 school medical officers and dentists, an increase of 257 in comparison with the previous year. Of the total, 160 were women, including 114 whole-time officers. Upwards of 700 private practitioners, exclusive of those engaged at hospitals, undertook medical inspection or treatment, or both.

Sir George Newman defines the guiding principle and fundamental purpose of school medical inspection as "prevention rather than cure." It is suggested that during 1921 school medical officers should make special inquiry into the causes and treatment of dullness and backwardness, the incidence of rickets, and the effects of industrial processes on the physical welfare of the elder and adolescent pupils; a medical register of all exceptional children should be compiled as a starting-point for further inquiry and action. Regarding the position and duties of the school medical officer, Sir George Newman says:

"It should be borne in mind that the physical examination of children affords opportunity for valuable scientific work. Mere mechanical inspection may readily degenerate into a form of drudgery, and the school doctor should be watchful that his work is constructive, and, as far as practicable, is applied to the advancement of knowledge. The opportunity is exceptional. For example, the school doctor may throw much new light on the incidence and degree of defect or disease, on the physiology of the child and its wide variation (the functional disturbances of the heart, circulation, or nervous system), on the beginnings of disease, on the relation of physique to mental capacity, on the standardization of signs and symptoms, on local variations or age and sex incidence of abnormality, on the place of catarrh, on the 'effort syndrome,' on relation of child and adult physique, on types of constitution, and on the range of normality." . . . "Now that authorities are reorganizing their school medical service after the war, it is important that special attention should be devoted to the position and duties of the school medical officer and his medical and dental colleagues. Whilst it is essential that the principal medical officer responsible to the authority for the smooth and proper working of the service would be *primus inter pares* and the recognized chief of his department, it is equally necessary that all the professional officers of the authority should be accorded the status to which their profession and duties entitle them. It is only thus that the best medical work can be done. Their duties should be reconsidered by the authority from time to time in order that the full value of their skill and advice is obtained in behalf of the children. There should be variety in their work, scope and time for necessary investigations, and entire freedom to express their findings. . . . The medical staff are placed in the charge of the school medical officer for purposes of practical administration, but not that their individual professional services should be subordinated to his opinion or lost to the authority or of no advantage to the children. They form a vital part of the public health services of the State and should be brought into close touch with the authority. Attention should be given to the adequacy of their remuneration, their status, and their duties."

The Findings of Medical Inspection.

The gross defects are, on the whole, declining steadily, but in many areas there is still present the same high figure of preventable defects, pointing frequently to lack of intelligent care and foresight. The grosser forms of uncleanness among children are now rarely met with, malnutrition is less in evidence, and protracted absence from school as the result of skin disease is less frequent; on the other hand, the minor grades of uncleanness, dental defect, visual defect, rickets, diseases of the ear, nose, and throat, rheumatism, and tuberculosis, continue to make heavy claims on children. Inquiries bearing on the relation between physique and environment were made by Dr. H. H. Thomson, who compared the physical condition of school children in Letchworth Garden City and in the adjacent area of Hitchin, and by Dr. Lawrence, who compared that of the children attending schools on the Port Sunlight estate, and of those living in the immediate neighbourhood. The general health, cleanliness, and mental condition of the Letchworth children were on a

* Annual Report of the Chief Medical Officer of the Board of Education, 1919. Cmd. 995. H.M. Stationery Office. (Price 2s.)