

British Medical Journal.

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MEDICAL STUDENTS AND THE WAR.

DURING the past few weeks occasional letters have been appearing in the local newspaper press of Edinburgh in which it has been hinted that the medical student is among the shirkers. It is therefore interesting to find that the great majority of the candidates now sitting for the final examination of the University are pledged to give their aid in bringing to an end the stupendous struggle in which the nations are engaged. We understand that almost every one of the ninety men, or thereabouts, who are up for their final professional examination in the University is going into the service in one way or another. Mr. Tennant stated in the House of Commons on May 19th that the number of temporary commissioned officers of the R.A.M.C. was at that time 3,100. These are nearly all young men recently qualified; this total is irrespective of those who have recently taken commissions in the Territorial Force, many of whom also are young men.

Any suggestion that medical students are showing any tendency to shirk their duties to the country to-day is utterly unfounded. The War Office, with the hearty support of the President of the General Medical Council, has urged all senior medical students to pass their final examinations at the earliest possible date, so that they may be in a position to take temporary commissions in the Royal Army Medical Corps, and a good many medical students who were serving in British hospitals in France in various capacities were instructed to return home last winter in order that they might prepare for their final examinations. In addition, some of the medical schools, and most, or all, of the licensing bodies, are giving facilities to students who have reached the stage when they must attend clinical practice, to offer their services as dressers in hospitals at home or abroad. In view of the present needs of the army for medical officers, any one who deters medical students from making themselves competent and qualified in the profession of their choice is doing the country a disservice. Casualties have been extremely heavy during the last couple of months, and those who are in the best position to judge tell us that they may be expected to increase in the near future. Already, according to Mr. Tennant's figures, nearly 6,000 medical men have been taken out of civil practice by the army, and it will undoubtedly be difficult greatly to increase this number from among men actually in practice without seriously dislocating civil work and the work of hospitals at home, where so many medical men are giving part-time service.

Sir Donald MacAlister, in his address at the opening of the summer session at the General Medical Council on Tuesday, said that inquiries at the several schools as to the number of students actually in attendance at the courses of medical study showed that the number was considerably over a thousand fewer than in 1913. The recall of senior students from active service to resume their professional studies had had a favourable effect on the fifth year, now drawing to a close, but he anticipated that the falling off during the next

few years must be expected to amount to some 250 a year in the number who become qualified as medical practitioners.

The army has received most valuable help from the medical profession in the Dominions, but Canada has been somewhat hampered owing to the fact that the local registration laws of certain provinces have stood in the way of many able and efficient surgeons there resident who desired to come to the aid of the mother country. Sir Donald MacAlister said that the response to a communication he had addressed to the medical authorities of the provinces concerned, pointing out the imperial bearings of the question of reciprocity, had exceeded all expectations. From Ontario, British Columbia, Saskatchewan, Manitoba, and Alberta messages were received, often by cable, stating that legislation had already been initiated for the removal of existing provincial restrictions. When the necessary steps are completed, all the provinces of Canada will have severally entered into reciprocal relations with the United Kingdom, and the way will be open for the application of the Medical Act, 1886, to the Dominion as a whole, as it is now applicable to the Commonwealth of Australia.

But when we look at actual numbers, it will be seen that useful as the help of the profession in the Dominions will be, and grateful as the nation is for the readiness of the provincial legislatures in Canada to remove all technical difficulties, the majority of medical officers required must be furnished by the home countries. The President of the General Medical Council, in referring to the organized efforts now in progress throughout the United Kingdom for such a readjustment of civil practice as will liberate all who can possibly be spared for the medical service of the navy and the army, spoke with gratitude of the efforts made by the Scottish Emergency Committee and by the British Medical Association through its local organizations, and referred to the fact that the services of qualified women had been freely offered and accepted for many of the places now vacant at home. But, as he truly observed, our professional reserves are at no time large, and the timely and valuable help received from these various resources must, if possible, be supplemented. Moreover, the casualty lists, and the lists also of the awards for conspicuous gallantry, have, as he said, testified to the magnitude of the losses incurred by the Army Medical Service, and the medical profession will agree with him that a duty lies on it as a whole to endeavour to fill the vacant places by men whose training and skill can be guaranteed and whose devotion will not be inferior to that of their fallen comrades. He appealed to the medical schools and corporations to aid the Council in its endeavour to maintain even in the present emergency the standards of teaching and testing which were regarded as essential to efficiency

THE TUBERCULOSIS PROBLEM—ON PAPER.

ACTING on the lines laid down by the Local Government Board and by the London County Council respectively, a large number of municipal and other authorities have established dispensaries for dealing with tuberculous persons in town and country areas. In London itself the work has been started by voluntary agencies, well in advance of the more slowly moving Government departments, but the general idea underlying the work actually done and the work proposed to be done is practically the same, although many

minor differences of method have been adopted in different localities. An attempt has been made to bring these methods into line, and to establish a uniform scheme for dealing with consumptive persons in London, by Dr. Barty King, who has devised¹ a detailed plan by which every conceivable case may be dealt with in accordance with his home surroundings and the stage at which the disease may have arrived at the time of notification.

In general outline the directions are not far removed from those approved by the County Council, but there are important differences which are worthy of careful consideration. It should be noted that the prevention of the disease is not here in question, the treatment of the individual being the sole consideration. The main point of difference between the scheme proposed and the present practice is the institution of a sort of court of appeal, to be called a Central Bureau and consisting essentially of a small committee of medical referees, with clerical assistance. The centralization of all the work done in a given area reads well on paper, but in its practical working out is full of difficulties. Under the rules that are gradually gaining acceptance by municipal and other tuberculosis dispensaries, ample provision is made for the medical investigation of each individual case. The general practitioner or panel doctor detects the disease and notifies the medical officer of health; he causes the case to be examined by the tuberculosis officer, who in his turn may consult with the physician before deciding on the line of treatment to be adopted. The further reference to a committee of medical referees, even in cases of disagreement, would not bring any advantage to the patient, but on the other hand would add greatly to the delay in starting treatment. Under the suggested scheme it would appear that, when the attendance of the patient could not be secured, this committee would have to decide many difficult or disputed points on the strength of reports alone. Such reports would be utterly insufficient in a large proportion of the numerous cases to be dealt with. The fact that the final decision must rest with the committee might conceivably lead to very superficial work on the part of the busy tuberculosis officer, who has hitherto been designated as the responsible man, as far as treatment is concerned. The appointment of a Consulting Physician to be attached to the tuberculosis dispensary has not been fully recognized by the two chief authorities in London, but where such appointments have been made they have proved of great advantage, ensuring full investigation of his case to the patient and providing a second opinion for the responsible officer in cases of difficulty.

The scheme under consideration makes no provision for domiciliary treatment, except by reference to the home doctor. It has become increasingly evident of late years that domiciliary treatment can be effective only if the methods of the sanatorium be carried out in the domicile. This can be done only when the help of trained visitors, working in connexion with medical authority, is available. It is of far greater practical value to the community than the separation for a period of the consumptive member of the household.

The futility of incurring expense in the attempt to stamp out the disease so long as its disseminators remain uncontrolled has often been commented upon in our columns, and it is to be noted that the

provision of establishments for advanced cases is included in Dr. King's programme.

It does not seem probable that anything short of legislation can ever provide satisfactorily for segregation of the main source of the disease, but the fact is always shunned, or postponed, or referred to other authorities, when practical steps have to be taken. In the scheme of the London County Council the question is not even considered.

Sir William Osler has written a foreword to introduce the elaborate scheme that Dr. King has suggested, and commends it to the consideration of the profession. He recognizes that, like every piece of complicated machinery, it can only do its work effectively if every part is "oiled by mutual good feeling." As a well thought-out plan it is worthy of careful study by those who are charged with the care and control of tuberculous persons, but as a practical machine it appears to bristle with points of probable friction, needing more of the oil referred to than could be reasonably looked for in the daily round of practice.

THE CASE OF THE TERRITORIAL MEDICAL OFFICER.

THE *Westminster Gazette* for June 1st contained an article by Mr. Arnold Bennett on "the case of the Territorial medical officer." Mr. Bennett pointed out that the lieutenant R.A.M.C. (Territorial) attached to a combatant unit gets 14s. 6d. a day; when he has served three and a half years he can be promoted to captain, with 15s. 6d. a day, but must be eight and a half years captain before he gets his majority with 22s. 6d. a day, so that Mr. Bennett estimates that the R.A.M.C. Territorial officer must serve twelve years to reach a salary of £410 a year, whereas the temporary lieutenant R.A.M.C. who has received a commission begins with a salary which he calculates to amount to £447 a year. Yet the permanent officer with less pay may be of mature age and considerable experience, and has already incurred family ties, responsibilities and expenses. Moreover, the permanent officer has devoted the spare hours and the holidays of years in peace time to the service of his country, yet he not only draws less pay but will receive no bonus after the war. As an instance of the hardship which officers R.A.M.C. Territorial are suffering, he gives the case of a regimental captain: "A Territorial R.A.M.C. regimental captain, aged about 45, with eight years' military service and twenty years' experience as a general practitioner, was earning about £1,000 a year when war broke out and he was mobilized. (For obvious reasons, most Territorial R.A.M.C. officers are men of good position.) He was, of course, obliged to leave his practice at a moment's notice. In ordinary circumstances he could have obtained a locumtenent at, say, 4 guineas a week, and the elements of the practice might have been saved. But precisely here comes part of the hardship. The terms offered by the War Office to temporary R.A.M.C. officers have produced an earthquake in the locumtenent market. Except at a prohibitive price, the locumtenent has practically ceased to exist in the civilian world. The private practice of my Territorial R.A.M.C. captain has vanished, and his insurance practice is being imperfectly kept together by a doctor living at a distance. When the visiting doctor is paid, the margin of profit left over for the owner of the practice is almost negligible. Thus my Territorial R.A.M.C. captain finds his income suddenly reduced from about £1,000 to about £280 per annum. He has no other resources, for all his capital has been put into his practice. He is married and has three children, whose ages range from 14 to 4. Needless to say, among other consequences of the financial catastrophe, a serious check has occurred to the education of the two elder children.

¹ *Scheme for dealing with Tuberculous Persons in the County of London.* By D. Barty King, M.A., M.D. Edin., M.R.C.P. Lond. and Edin.; with a foreword by Professor Sir W. Osler, Bt., F.R.S. London: John Bale, Sons, and Danielsson, Limited. 1915. (Sup. roy. 8vo, pp. 64; 15 charts. 5s. net.)

The officer has applied for promotion, which has been refused because, according to the rules, he has not served long enough to merit promotion. Nevertheless, these rules do not prevent other R.A.M.C. officers, much junior to himself, but differently circumstanced in regard to the service, being promoted to majors and even to higher ranks when there are vacancies in the home unit." Mr. Bennett thinks that the attitude of the War Office is "very human." It had, he says, the Territorial officer safely in hand. It wanted temporary officers, and it had to go out into the market and tempt them with a fair price. He also criticizes the attitude of the War Office as to the lieutenants of the Special Reserve R.A.M.C. They have, he says, "been to the front; some have been killed, some wounded, some decorated. But apparently none has received promotion, whereas new regular lieutenants in the R.A.M.C. have been promoted wholesale. At least one Cabinet Minister, and probably many permanent officials, has enunciated the axiom that injustice is bound to happen in war time. Still, it behoves the authorities concerned to minimize injustice so far as lies in their power. And their power is great." This is a matter which is engaging the attention of the British Medical Association, but it is satisfactory that public attention should be called to it by so distinguished a layman as Mr. Arnold Bennett. The public, we believe, has a very imperfect idea of the sacrifices entailed upon the Territorial medical officers who were called away from their practices on mobilization, or who have since joined. Members of other professions have responded most nobly to the country's call, but, with the exception perhaps of the Bar, there is no profession in which a man's practice is so largely individual as medicine; it is very difficult for his colleagues, with the best will in the world, to prevent a loss of connexions which in many instances must reduce the medical officer from a position of ease to one of great embarrassment. Often he will have, after the war, to begin over again.

THE ELECTRO-MAGNET IN MILITARY SURGERY.

A FOREIGN body of magnetizable nature, even when deeply embedded in the tissues, can under favourable circumstances be brought under the influence of an electro-magnet and attracted little by little until it causes a projection at the cutaneous surface, whereupon it can be extracted through a small incision. This method involves long and frequently repeated sittings, but Professor Bergonié of Bordeaux, having observed that interruptions of the continuous current used in these cases accelerated the result, has conceived the idea (*Arch. d'électr. méd.*, No. 390, 1915) of employing simply an alternating current with the magnet, for the purpose of causing a vibratory motion of the projectile, and so facilitating its localization, when it can be removed through a deeper incision. His first experiments were made, not with the massive core of the electro-magnet, but with the inductor of an old coil used in *x*-ray work. Upon the approach of this inductor, excited by alternating current, the projectile comes under an attraction less powerful than that exercised with the electro-magnet employed with continuous current, and the displacement, as shown by the *x*-ray photograph, is insignificant; but a new phenomenon occurs, inasmuch as the projectile vibrates when placed within this alternating field. The vibrations synchronize with the alternating current, the frequency being usually between 48 and 55 a second. The fact that an electro-magnet excited by alternating current causes magnetizable fragments to vibrate has hitherto scarcely been noted, and has been utilized very rarely in industry, and in medicine not at all. The projectiles capable of being influenced are fragments of shell, and, to a smaller but sufficient degree, the German bullets having a sheath of ferronickel. With lead projectiles the results are negative. Bergonié's procedure is to pass the extremity of the core of the magnet backwards and forwards over the suspected part, but never allowing

it to come into contact with the skin. If on superficial palpation any vibration of the tissues is observed, it indicates that there is an embedded projectile which is magnetizable. The point of maximum vibration is then found by deeper palpation, and the projectile is localized as being nearest the surface at this point. Here, if it is possible, the incision is made, but as all surgical instruments will share in the vibration, the current must be switched off when they are in use. After the making of the incision the magnet (which should have a sterilized covering) is again used, and, making a digital exploration, the surgeon is able to discover the direction in which the vibration continues. The incision is deepened in that direction and, if the projectile is still undisclosed, the magnet is used again. These alternations of surgery and magnetic action rarely number more than four or five, even in thick parts when the bullet is deeply embedded. Bergonié makes it clear that it is purely by surgery the bullet is extracted, and not by magnetic attraction; the function of the magnet is ended when the surgical instrument or the finger of the surgeon is upon the projectile. Care must be taken, if the operating table is of iron, that the magnetic instrument does not approach too near its plane. From the electrical point of view the essential instrument is the magnet itself excited by an alternating current of 110 to 120 volts or 220 to 240 volts. As the magnet is heavy it requires a strong support; preferably it should be suspended from a wall bracket and admit of displacement in all planes. A good cut-out for sudden rupture of the current is also necessary. Professor Bergonié appends reports of 28 cases in which projectiles were found, localized, and in the greater number of instances extracted surgically by this procedure; he urges that it is purely objective, requires no resort to geometry or calculation, and brings into play that fine tactile sense of which the surgeon should be abundantly possessed. Bergonié's method is also the subject of a French "dépeche ministérielle" (No. 13,835 C/7), in which it is stated that splinters of shell and bullets of a magnetizable nature now form four-fifths of the projectiles extracted. Shrapnel, so frequent at the beginning of hostilities, is very rarely found among recent wounded. Extractions with magnet-localization diminish in large measure the number of cases of infection associated with projectiles not promptly extracted. Bergonié does not put the method forward as a substitute for *x* rays, but as an additional means of localization.

EHRlich'S RECENT MODIFICATION OF SALVARSAN.

PROFESSOR WECHSELMANN of the Rudolf-Virchow Hospital in Berlin and Dr. G. L. Dreyfus of Frankfurt have recently published their experiences of sodium-salvarsan (salvarsan-natrium).¹ After discussing the defects of the original salvarsan and of the more soluble neo-salvarsan, Wechsellmann stated that he was provided a year and a half ago by Ehrlich with a new salvarsan preparation, 12,000 injections of which he had since given. He found it satisfactory in every respect, as it combined the advantages of the two earlier preparations with none of their failings. At first two preparations were tested, the only difference between them being the presence of "hyraldit" in the one. The other, No. 1206 A, had the same action as the first preparation, the chemical and physical properties of which were inferior. Ehrlich, accordingly, decided to introduce only No. 1206 A under the title of "salvarsan-natrium." This was a fine golden-yellow powder, which was easily soluble in water and which, on exposure to air, acquired a dark brown colour, became almost insoluble, and increased in toxicity. It contained the same proportion of arsenic, 20 per cent., as neo-salvarsan, and the dosage was, accordingly, the same. For more than a year the dosage of sodium-salvarsan ranged from 0.3 to

¹ *Muench. med. Woch.*, February 9th, 1915.

0.45 gram. Later, the dose was occasionally raised from 0.6 to 1 gram, and though these larger doses caused but little discomfort, the smaller doses of 0.3 to 0.45 gram were preferred for ambulatory treatment. In these quantities the drug was found to be absolutely atoxic, and the injections were not followed by the slightest reaction as a rule. After the first injection in florid syphilis the only reaction was an occasional slight rise of temperature, which was unaccompanied by any discomfort. Only in four cases did slight vasomotor phenomena, suggestive of anaphylaxis, occur; but two cases within a week showed a measly rash, and the preparation was accordingly considered unsuitable for subcutaneous injection. This method of administration was also contraindicated by occasional slight necrosis at the site of injection, due rather to the alkaline constituent of the preparation than to the salvarsan element in it. Being practically atoxic, the preparation could be given even in cases of apoplexy, diabetes, and other diseases, including nephritis, so long as the functional activity of the kidneys was not much reduced. Albuminuria was never provoked by the injections, nor increased in cases in which it already existed. From 40 to 50 injections were given in each case over a considerable period, two or three injections being given every week. It was hoped that equally good results would be obtained by increasing the dosage and decreasing the number of injections. In early cases a total dose of 4 to 6 grams was sufficient, practically without exception, to banish all the clinical signs, and in about 93 per cent. to render Wassermann's and other syphilitic reactions negative. In cases of old standing the clinical results were also good, but Wassermann's reaction sometimes remained positive for a considerable period. As concentrated solutions were apt to cause not a little discomfort and vomiting, a dilution of 0.1 sodium salvarsan to 10 of a 0.4 per cent. saline solution was usually given and found satisfactory. Though the drug was given by subcutaneous and intramuscular injections in some cases, it appears that the intravenous method of administration was generally preferred. The account given by Dr. Dreyfus of sodium-salvarsan was also very favourable. He pointed out that sodium-salvarsan was chemically the same substance as old salvarsan when this had been rendered alkaline immediately before injection. In other words, it was old salvarsan modified so as to be as easily given as neo-salvarsan. So atoxic was this preparation that in a series of 138 injections there was no rise of temperature above 37° C., and no subjective reaction. In a short editorial note, the *Muenchener medizinische Wochenschrift* expresses the hope that, by this advance in salvarsan therapy, the ambulatory treatment of syphilis among soldiers on active service will be greatly facilitated. At present it appears that the difficulties of preparing and injecting solutions of salvarsan are a great hindrance to ambulatory treatment in the field.

MENTALITY OF THE WOUNDED.

ALL who have seen our wounded men in hospital agree that they bear their sufferings not only without complaint but with a cheery optimism which is a powerful aid to recovery. In a private letter from a medical officer in a hospital ship in the Dardanelles, after speaking of the severity of the wounds, which suggest the use of soft-nosed bullets, he says the fortitude of the men is very fine and admirable. Dr. C. K. Austin, writing in the *New York Medical Record* of November 7th, 1914, said: "The fortitude and philosophy of the Allies' wounded has attracted universal comment, and is one of the most serious warrants for the ultimate success of the allied cause; what mortal man can be got to put up with, without complaint, the apparently unnecessary hardships and dangers that many thousands of these brave soldiers have had to undergo, simply leaves one speechless." Of course all are not cast in the same heroic mould, and, as Velpeau pointed out long

ago, wounded men, according to their constitution and their mentality, either exaggerate or make light of pain. There is usually a great difference between the wounded of a victorious and those of a defeated army, the latter showing much less resistance to pain and to the effects of injury than the former, whose vital power is raised to the highest point by the triumph of their arms. He said also that the seasoned veteran accepts his fate with greater indifference than the young soldier who has been wounded in his first battle. This makes the light-heartedness shown by our men, to the vast majority of whom the hardships of war had become a mere tradition, all the more remarkable. Larrey cites many instances of the courage with which the soldiers of Napoleon's Old Guard bore the severest amputations, and Dr. Bonnette in the *Quinzaine Thérapeutique* gives a number from other sources. One of the most striking testimonies to the hardiness of the French soldier is that of Sir Charles Bell, who went over to Belgium after Waterloo to work in the hospitals of Brussels. Writing to his brother on July 1st, 1815, he says: "I have just returned from seeing the French wounded received in their hospital. When laid out naked, or almost so, 100 in a row of low beds upon the ground, tho' wounded, low, exhausted, tho' beaten, you would still conclude with me that those were fellows capable of marching, unopposed, from the west of Europe to the east of Asia. Strong, thick-set, hardy veterans, brave spirits and unsubdued, they cast their wild glance upon you, their black eyes and brown cheeks finely contrasted with their fresh sheets; you would much admire their capacity of adaptation. These fellows are brought from the field after lying many days on the ground, many dying, many in the agony, many miserably racked with pain and spasms, and the fellow next to him mimics him and gives it a tune: 'Ah, ha! vous chantez bien!'" That the French soldier has not deteriorated is shown by the evidence of a number of medical officers, who, under the command of Colonel de Montmollin, surgeon in chief of the second division of the Swiss army, lately visited France. After seeing the wounded in the hospitals, they declared that their mentality was superb. On the other hand, at a recent meeting of the Société de Médecine, Dr. Paul Guillon gave an account of impressions formed during some months he was in charge of wounded in a hospital in Brittany. For a long time the majority of his patients were Germans. He said that while he could not say how they behaved in battle, he could testify that they showed little courage in hospital. They groaned when tincture of iodine was applied to their wounds, and for the most trivial operation they begged for an anaesthetic. While the French wounded do what they can for each other, without regard to social rank, the Germans, on the contrary, showed a barbarous selfishness; the least service from one to the other must be imposed on them by command. They would ask to be placed in another bed because a neighbour's wounds smelt ill, and when a "Kamarad" groaned in the night all asked whether he could not be taken away as quickly as possible as he was dying. When one was taken to the operating room, the others took the opportunity of emptying his pockets of any small objects they might contain. As soon as one died, it was necessary to keep a strict watch on the others to prevent their seizing all the property he had. Dr. Guillon concludes by saying in general terms that the German soldiers are robbers whatever be their rank. "Their selfishness and shamelessness are revolting. If any one does not feel disgust for them, it can only be that he has not been among them." This, of course, is the testimony of an enemy, and as such must be accepted with some reserve. But there is plenty of independent evidence as to the behaviour of the German wounded in the present war, and the conclusion to be drawn from it is that when they are not cowardly they are often intolerably arrogant and ungrateful.

GERMAN SANITARY CONTROL OF A PRISONERS' CAMP.

In the *Munchener medizinische Wochenschrift* for January 5th and 12th, Dr. G. Seiffert described the sanitary measures adopted in the prisoners' camp in Lechfeld. Here it was found that, owing to the mixed composition of the prisoners, there was little use in giving lectures on hygiene. Instruction in hygienic measures was therefore confined to placarding the doors of barracks, kitchens, and privies with the most elementary rules of hygiene. Among these may be mentioned the following: "If infectious diseases break out in a prisoners' camp where many people are collected, there is great danger to the companions of the sick. It is, therefore, necessary in your own interests to take sanitary precautions. Any one suffering from fever, colic, diarrhoea, severe vomiting, or sore throat must report himself to the sanitary police, who must notify the medical officer. Such a notification has nothing to do with immunity from work. Do not, therefore, simulate disease, for you will be punished, and your companions will suffer, as a careful examination will no longer be undertaken. Typhoid fever and dysentery are particularly dangerous. These diseases need not necessarily be severe, but those who suffer from them in a slight form are a great danger to their companions. Only great cleanliness prevents disease. Keep, therefore, the privies clean, do not dirty yourselves, and always wash your hands when you come from a privy. Wash your hands before eating, and wash your eating utensils only in running water. Particles of decomposed food can also cause disease. Kitchen attendants must be particularly clean. They must always wash their hands before beginning work. Any one suspected of illness is admitted to a special department and is kept there while careful examinations are made. Here he enjoys the same freedom as his companions, but receives better attendance." The sanitary police were chosen from among the French and Russian prisoners, and were put in charge of men of their own nationality. They were recruited from the respective Army Medical Services, and in matters of public health were in control of prisoners of every rank. They were given the full freedom of the barracks, and were directly responsible to the medical officer in charge. All their reports were handed into a bureau under the control of two French officials, who gave a daily report to the German medical officer in charge. The duties of the sanitary police were the detection of infectious cases, the notification of insanitary conditions, the supervision of sanitary measures, and the collection of material for bacteriological examinations. Each sanitary policeman had only 1,000 prisoners, or less, to supervise, and some of the sanitary police were given special duties, such as disinfection of clothes, the maintenance of the privies in a sanitary condition, and the supervision of prisoners in quarantine. Every morning the sanitary police entered the barracks and inquired after cases of fever, diarrhoea, colic, severe vomiting, and sore throat. The names of suspects were taken and sent to the bureau, where lists were drawn up for the medical officer in charge. In urgent cases he ordered the immediate isolation of the patient, but in less urgent cases the suspects were inspected by a French doctor at midday. He then decided what course to pursue in each case. Records of all illnesses were kept with a view to a subsequent statistical analysis, and it was hoped thereby that a comprehensive survey would be obtained of the effect of the French inoculation against typhoid fever. Great care was taken to learn which of the prisoners had been in the tropics, in order that relapsing tropical diseases could be the more easily detected. In addition to the inspection of the prisoners by the sanitary police, it was the duty of the medical officer in charge to inspect the prisoners personally, and to look out for signs of disease. It was found impracticable to

separate the unvaccinated from the recently vaccinated; but, as a rule, it was considered desirable for every prisoner who was not suffering from open and suppurating wounds to be vaccinated. Even pock-marked prisoners were not exempt from vaccination.

THE ENDOCRINE GLANDS.

SIR EDWARD SCHÄFER is known to the world as one of the leading authorities on the endocrine glands, or glands with internal secretions, and he occupied the chair at the important discussion on these glands that was held in London at the International Congress of Medicine in 1913. In the same year he delivered the Lane Medical Lectures at Leland Stanford Junior University, California, choosing as his subject the endocrine glands and internal secretions. The result lies before us in the form of a pamphlet¹ containing an excellent and concise summary of the chief facts known to us concerning this much-debated province of physiology. So many busy writers occupy themselves with the production of facile speculations and baseless hypotheses as to the functions of these glands, taken singly or together, as to the share they may take in regulating the economy of the system, and as to their importance in the production of the obscurer diseases or pathological states, that it is most refreshing to come back to so solid a basis of fact unobscured by superstructures of theory as is furnished by Sir Edward Schäfer's lectures. The first of the five lectures contains general considerations regarding internal secretions and the organs furnishing them. It may be noted that the endocrine glands are not identical, as is sometimes supposed, with the ductless glands. Among the latter are the thymus, spleen, tonsils, lymphatic glands and follicles, and the bone marrow; but no satisfactory evidence has been produced hitherto to show that any of these tissues actually has an internal secretion, and so they were excluded from his survey by the lecturer. As for their constitution, the internal secretions are not enzymes, but no doubt simpler chemical compounds comparable to drugs in their mode of action. Some stimulate the activities of other cells in the body, and so are called "hormones" or starters; others tend to inhibit cellular activity—extract of placenta contains a substance that inhibits the secretion of milk—and such inhibitory internal secretions have been christened "chalones," or slackeners. Both are called "autacoid substances," or, simply, "autacoids," by Sir Edward Schäfer, because their mode of action resembles that of drugs such as the vegetable alkaloids. He classifies the principal endocrine glands into three main groups, and devotes a lecture to each group—the thyroid and parathyroid glands, the suprarenal apparatus with its cortex and medulla, and the pituitary or hypophysial apparatus built up of epithelial and neural components. The fifth and last lecture offers a mixed bag to the reader, describing the internal secretions of the pineal gland, of the alimentary mucosa, of the pancreas, and of the sexual organs. Here, speaking generally, we have comparatively little certain knowledge to go upon, and further investigation is urgently called for. In the case of the pancreas, for example, we know that it is profoundly concerned in the carbohydrate metabolism of the body, producing an inhibitory agent, either a chalone or an enzyme, that restricts the mobilization of the sugar. But exactly what this substance is, and how it is related to the liver, which stores carbohydrate in the body, and to the suprarenal apparatus that promotes the appearance of sugar in the blood, we still have to learn; the matter is undoubtedly of the utmost importance in the treatment of that common disorder diabetes mellitus. Sir Edward Schäfer writes clearly and temperately, and his lectures may be warmly recommended to all students of

¹ *An Introduction to the Study of the Endocrine Glands and Internal Secretions.* By Sir E. Schäfer. California: Stanford University. (Roy. 8vo, pp. 94. 75c.)

physiology, to medical students, and to practitioners of medicine, as a first-rate account of a rapidly progressing branch of physiological and pathological science.

THE HEALTH OF VIENNA.

In a short note in the *Ugeskrift for Læger* for April 15th a review is given of a report by Dr. Bohm on the health of Vienna during the war. The first patient brought from the front to Vienna was a soldier suffering from dysentery. Many other cases of this disease followed, and altogether about 400 soldiers were treated. Down to March, 1915, there had been 334 cases of dysentery among civilians; most of these cases, however, occurred during the autumn, and only isolated cases were reported after the middle of November. The first patient suffering from cholera was sent to Vienna in September. Subsequently 393 soldiers and 25 civilians were treated for this disease, but only two of the civilians were natives of Vienna. After the middle of November there was no further outbreak of cholera in the town, all the patients coming from districts outside Vienna. There was a steady increase in the cases of typhoid fever until February, when 1,433 soldiers and 317 civilians had been treated for this disease. Until March 19th, there had been 1,098 cases of small-pox, of which 1,046 occurred among civilians. This epidemic, the mortality of which was as high as 21.5 per cent., began to wane in February and March. There were 24 cases of typhus fever, all of which were drawn from the scene of fighting. It was anticipated that a much more serious outbreak of this disease would occur, and two isolation hospitals, each with accommodation for 2,500 beds, were being equipped, so as to supplement the small hospital, with 100 beds, already in use. With regard to the incidence of small-pox, it should be borne in mind that, though a bill making vaccination compulsory was drafted some time ago, it never became law, and vaccination is still voluntary in Austria. This state of affairs is vigorously denounced in the *Wiener medizinische Wochenschrift* for March 6th, 1915, by Professor v. Pirquet, Senior Physician to the Children's Hospital of the University of Vienna. He writes: "When we consider the history of the great epidemic of 1870-73, we can with certainty prophesy that the present war epidemic will not cease to-morrow nor next year, and that it will affect hundreds of thousands, unless energetic legislative measures are taken. . . . Unless we at once decide on compulsory vaccination, we shall have to adopt it in three to five years, for this epidemic will not cease until we have introduced those measures with which the German nation suppressed small-pox, once for all, forty years ago."

BIRTHDAY HONOURS.

THE birthday list is for the most part concerned with honours conferred for services in the present emergency at home or in the field, but there are a few exceptions. The knighthood conferred upon Dr. James Mackenzie follows the recognition by physicians and physiologists of the great scientific and practical value of his investigations of the physiology and pathology of the heart. The same honour conferred upon Dr. Frederick Needham, one of the Commissioners of the Board of Control, recognizes many years of able and unwearying service to that Board and the Lunacy Commission. Dr. Arthur W. G. Bagshawe, Director of the Tropical Disease Bureau, receives the C.M.G. The Distinguished Service Order is conferred on Major E. J. O'Neill, M.B., New Zealand Medical Corps, and Captain A. G. Butler, Australian Army Medical Corps, attached to the 9th Australian Infantry Battalion (Queensland). Several awards of the Distinguished Conduct Medal will be recorded in an early issue. The list further contains honours for officers serving in India.

The Companionship of the Bath, Military Division, is conferred on Surgeon-General T. M. Corker, M.D., A.M.S., Deputy Director of Medical Services, 9th (Secunderabad) Division of the Southern Army in India. The C.I.E. is conferred upon Lieutenant-Colonel C. C. Stewart Barry, I.M.S., Medical Superintendent of the General Hospital, Rangoon. The Kaiser-i-Hind gold medal is conferred upon Lady Lukis, the wife of the distinguished Director-General of the Indian Medical Service, and Dr. T. F. Pedley, Rangoon, Surgeon-Lieutenant-Colonel in the Rangoon Port Defence Volunteers. The Imperial Service Order is conferred upon Rai Chuni Lal Basu Bahadur, M.B., first assistant chemical examiner to the Government, and teacher of physics and chemistry in the Campbell Medical School, Calcutta, and on Dr. J. E. A. Ferguson, Government Medical Officer, British Guiana.

Medical Notes in Parliament.

The New Government.

THE new Government is now complete. Mr. Charles Roberts, who has succeeded Mr. Montagu as Chairman of the National Health Insurance Joint Committee, was previously Parliamentary Under Secretary for India; he was a Balliol scholar, and a Fellow and tutor of Exeter College, Oxford; he has represented the city of Lincoln in the Liberal interest since 1906. Both the President and the Parliamentary Secretary of the Board of Education have been changed. Mr. Arthur Henderson, who has replaced Mr. J. A. Pease as President, was born in 1863, was apprenticed at Messrs. Robert Stephenson's works at Newcastle, was a member of the Newcastle City Council, and in 1903 Mayor of Darlington, before becoming in that year the parliamentary representative in the Labour interest of the Barnard Castle Division, Durham. Mr. Herbert Lewis, previously Parliamentary Secretary to the Local Government Board, where his place has been taken by Mr. Hayes Fisher, has become Parliamentary Secretary to the Board of Education in succession to Dr. Addison, who has received the important appointment of Parliamentary Secretary to the new Ministry of Munitions, of which Mr. Lloyd George is head. His selection for this appointment seems to have caused a certain amount of surprise among politicians, but it may be taken as a measure of the esteem and respect which his abilities and character have inspired in those who have been most closely associated with him during his short but brilliant political career, which only began in 1910, when he was elected to represent the Hoxton Division of Shoreditch. The earlier part of his life as professor of anatomy in the University of Sheffield and lecturer on the same subject at St. Bartholomew's Hospital, was given to science, and this scientific training and experience fit him in a special manner for the important office he now occupies.

OUR BELGIAN COLLEAGUES AT HOME AND ABROAD.

THE DISTRIBUTION OF THE FUND.

OFFICIAL reports of recent meetings of the Aide et Protection aux Médecins et Pharmaciens Belges Sinistrés reached the Secretaries of the British Committee on May 28th through the kind offices of Professor Jacobs. This, it will be remembered, is the title of the committee formed in Belgium for ascertaining where the need is greatest among the Belgian doctors and pharmacists and for providing systematic relief. The president is Dr. Péchère, the secretaries M. Delacre and M. Laruelle, and the office is in Brussels; it is upon this body, now strongly organized, that the British Fund is relying for distribution of its resources in Belgium.¹ When a representative of the Aide et Protection aux Médecins et Pharmaciens Belges met the Central Committee of the British Fund late in March he explained the way in which the Belgian Committee was compiling information to guide them in their work, and it was then decided that a substantial

¹ BRITISH MEDICAL JOURNAL, April 3rd, p. 610, and April 24th, p. 734.