The blood and all faecal soiling is now sponged out with gauze wrung out in hot saline. If there is much faecal contamination a drain is left in Douglas's pouch. A rubber dam generally suffices, and drainage is often considerable for forty-eight hours, after which the drain is removed. Drainage is specially necessary after wounds of the colon and rectum. If the colon is greatly damaged colostomy of the damaged portion should be performed. Lacerations of the diaphragm, unless minute, should always be carefully sutured. The abdomen is closed in layers.

In wounds of the right chest, with a large foreign body penetrating into the liver, I have found the following technique useful. After performing thoracotomy and dealing with the lung, the foreign body is removed, if possible through the hole in the diaphragm, which is enlarged if necessary. The diaphragm is then sewn to the costal pleura, as in the operation for subdiaphragmatic abscess. A gauze drain is left in. By this method the risk of any septic discharges from the liver wound running down into the abdomen is avoided; they drain straight to the outside of the chest, through the diaphragm. The pleural cavity is of course closed off. In wounds of the left side of the chest involving the spleen and stomach, in which the foreign body is localized near the diaphragm, when thoracotomy is being performed the rent in the diaphragm can often be enlarged, the foreign body removed, and the wound of the stomach and spleen dealt with. The diaphragm is subsequently sewn up and the chest closed.

If a wound of the bladder is small but leakage of urine has occurred into the abdomen, it is not always easy to find the wound. In one case I was unable to do so, and performed suprapubic cystotomy; a tube was left in for a few days, by which time the original wound had healed; the patient made a good recovery. A foreign body should always be removed if inside the bladder. In wounds of the buttock or back, penetrating the abdomen, the back wounds should always be dealt with first, as patients suffer considerable shock from being turned over late in the operation.

After-Treatment.

It is important to keep the patient warm. Fowler's position is adopted after about six hours, and the patient is only gradually raised if there is much shock. Saline and brandy are given by the rectum. I allow plenty of fluid by the mouth as soon as the patient wishes it; if perforations have been properly sewn up it will do no harm, and if they have not they are sure to leak anyhow when the peristaltic power returns. Moreover, if the stomach be wounded it is easily made watertight, as the walls are thick. These patients are always thirsty, and need fluids badly. For flatulence pituitary extract, injected intramuscularly, is often useful.

On the second or third day it is usual to administer an enema after an injection of pituitrin. I have often noticed considerable shock after these enemata, though they have been carefully given, and have seen two cases die of shock after an enema. One of these was a patient with a large tear of the hepatic flexure of the colon that had been sutured. Three days later he was doing well, and his pulse was only 100. He was given an enema, and collapsed immediately. At the *post-mortem* examination the wound of the bowel was found quite sound, and nothing abnormal was seen. Miss Wade—a very observant sister who nursed many of these abdominal cases—tried different enemata and aperients under my direction; she always noticed some degree of shock after an enema, but found that castor oil was more satisfactory than anything else; after its administration shock was negligible. Mention is made of this as it may be worth further investigation, and apply also in cases of severe civil abdominal operations.

Results.

I kept notes of 34 consecutive cases during the final campaign of 1918. I retained them in the casualty clearing station till convalescent; 23 of these made a good recovery, 11 died—a recovery rate of 67 per cent. Six of this series had wounds of the chest penetrating the diaphragm into the abdomen.

By operating on war wounds of the abdomen some lessons are learnt that should prove of great help in civil abdominal surgery. The foremost of these is how speedily an abdominal operation can be performed without roughness and without undue sacrifice of thoroughness; the

shock of a severe operation is thereby greatly lessened. Gas and oxygen is an excellent anaesthetic for a civil abdominal operation of an urgent and critical character. It is now common to examine the whole of the abdominal contents systematically in a short space of time; lastly, a single layer of continuous suturing is ample for most cases requiring resection of bowel or anastomosis.

A satisfactory feature of these abdominal wounds is that if a patient recovers from the immediate injury he usually becomes a strong healthy man again and an asset to the community, whereas many wounds of the extremities—for example, fractured femur—nearly always leave some permanent disability.

A SUGGESTION FOR A HEALTH CENSUS.

BY

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In a paper published recently in the *Medical Officer*¹ I pleaded for a health census. The subject is of such importance to the community that I wish to draw attention briefly to it in your widely circulated JOURNAL. The points made are: (1) That the Ministry of Health is essential to attain the maximum of efficiency and for the co-ordination of the different authorities dealing with the subject; and (2) that prevention of illness takes the first place in any national scheme, and of next importance to this comes the protection of the community from communicable disease. It is now fully realized that any measures, however far-reaching, will be of little use unless better houses are provided for the poorer classes.

The waste of man and woman power from ill health is an economic problem of the first importance to the country, and money wisely expended on health, particularly on the prevention of disease, will prove a sound investment for the nation.

Medical examination for the army has proved the enormous number of unfit in this country. Medical examination of school children had already drawn serious attention to the large percentage of defective children, and had also made evident that many of the conditions by early discovery and efficient treatment could be prevented from irretrievably ruining the child's health and future.

It seems to me to be the duty of medical officers of health to indicate what may be considered the only method likely to achieve these invaluable ends—the prevention or the early treatment of disease. The advantages of this are likely to appeal to an intelligent community, though compulsory measures for any ordinary purpose are rightly resented by the average Briton. If active measures are to be taken, now is the time, for the existing organizations with trained doctors and suitable buildings can readily be turned to a good purpose. It is suggested that examination of every man, woman, and child under sixty years of age should be made periodically, and that each person examined should be supplied with a "health record card," on which would be entered all particulars of the physical condition found on such examination, this card to be produced at all subsequent examinations and necessary corrections and additions made upon it.

Four examples of well known diseases are offered as illustrations of the importance of such a scheme.

1. *Cancer*.—Every decade shows an increase of the progress of this dreadful disease. Though the cause of it has not yet been discovered, many conditions well known to surgeons predispose to its development. By removing these predisposing causes cancer can be prevented. In the public mind pain is so closely associated with the name of cancer that an apparently insignificant swelling, or a small painless sore, or a trifling haemorrhage from one of the internal organs, is apt to be ignored. Yet each of us knows that any of these may be the first evidences of cancer. Surgeons are agreed that 75 per cent. of cases now seen by them have poor chance of cure from even the most radical operations, but that in the great majority of patients there was a time when a suitable operation could have effected a good result and permanent cure.

2. *Arterio-sclerosis* claims an increasing number of victims at the most efficient and productive period of

their lives. Its early detection requires skilled examination and its progress can then be arrested.

3. *Tuberculosis*.—Many of the predisposing causes of tuberculosis are known, and their recognition may be the means of preventing its development. It is probably more widely spread than any other disease, and unfortunately the tubercle bacillus is possessed of such resistance that it can continue to exist in almost any environment. The conclusion following this knowledge is that any attempt to stamp out tuberculosis is for the present doomed to failure. If recognized in its early stages and promptly treated, we know it is not the deadly disease public opinion has supposed. But, in spite of notification and sanatorium treatment, the results have not been what they should, because it is exceptional for cases to be discovered in their early stages. As proof of this, our experience may be quoted. The best results in Cumberland have followed the discovery of early cases during examination of school children or the examination of contacts of notified cases.

4. *Syphilis*.—The costly arrangements now being inaugurated for the treatment of this deadly disorder, though beneficial to the affected individual will do little to stamp out the disease, but this could be done in two years if medical knowledge could be applied on scientific lines. The organism believed to be the cause of syphilis, unlike that of tubercle, is delicate and easily destroyed. It dies after a few hours of exposure to the air, and can only be propagated by intimate personal contact. When introduced into the human body it invades all the tissues, and untreated is likely to remain actively infective for years. Unless treatment is made compulsory every doctor knows that it is going to be a failure. The diagnosis of syphilis by clinical examination, the microscope, and blood tests is relatively easy, so that such a health census as I have suggested would reveal the syphilitics in any community. The only scientific method of disease prevention ever introduced into this country was Mr. Walter Long's Rabies Order of 1897, and this magnificent bit of far-seeing statesmanship stamped hydrophobia out of Britain. In the interests of the community and of themselves infective syphilitic persons should be segregated in healthy surroundings till the risks of spreading infection and of leaving the disease uncured have gone. A small extension of the work done by port sanitary authorities would ensure that new cases were not introduced from overseas.

If the Prime Minister's wishes are to be realized they demand radical improvement in the methods so far recognized and employed for the prevention and treatment of disease.

REFERENCE.

¹ Medical Officer, April 12th and 19th.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A NOTE ON THE TREATMENT OF MALARIA.

A CONSIDERABLE number of men who have contracted malaria abroad, and who have been demobilized, are being admitted to the malaria section of the 4th London General Hospital with relapses. In most cases they give a history of having been treated by civil practitioners before admission to hospital, but that the treatment has failed to stop the attacks of fever. This is apparently due to a dread of giving adequate doses of quinine; and I think it might be of advantage to point out that we have found here that quinine sulphate in solution, given in doses of 10 grains three times a day, never fails to cut short the attacks and cause disappearance of the parasites from the peripheral blood in a few days, whilst no serious ill effects have followed such doses. If each relapse were treated promptly with this amount of quinine daily for a week, it would mean a considerable saving in lost time, and the general health of the patients would not deteriorate as it does under repeated attacks of fever. After the week's dosage of 30 grains of quinine daily, a dose of 10 grains of quinine should be given regularly once a day to prevent relapses, as in the Malaria Concentration Centres in England (*Lancet*, May 10th, 1919, pp. 780-781). My thanks are due to Colonel Sir Ronald Ross, Consultant

in Malaria, and Colonel Smart, Officer Commanding 4th London General Hospital, for permission to publish this note.

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A SUDDEN DEATH UNDER AN ANAESTHETIC.

ON May 20th I gave an anaesthetic to a stout well-grown girl of 16 (she looked quite 20) for enucleation of tonsils by dissection. Anaesthesia was induced without difficulty by C_2E_8 on a domette mask. The mouth was then opened by gag and the vapour of Billroth's mixture (C_2E_1) blown in through a tube from a Junker apparatus. While the first tonsil was being enucleated, which was done with some difficulty, she gave signs of coming to, and I replaced the mask for a minute and gave a little more C_2E_8 , then returning to the Junker apparatus and tube. The fauces were swabbed out, and there was no indication of blood in the air passages. When the second tonsil was on the point of removal the patient suddenly ceased to breathe, the pupils dilated, and the heart stopped beating. Artificial respiration was carried on for nearly two hours, air entering the chest quite freely, but there was never the slightest response. *Post mortem* a fairly large persistent thymus was found, and some enlarged abdominal glands; the left ventricle was uncontracted.

The persistent thymus probably affords an explanation, though a little understood one, of the sudden cardiac failure; but I ask for information on two points. (1) Is there special danger in the operation of enucleation of tonsils? Several deaths have been recorded. (2) Can it be that the necessarily light anaesthesia given by a Junker apparatus and tube when the mouth is widely open is a source of peril? Auricular fibrillation is said to occur with light chloroform anaesthesia.

Eastbourne.

H. S. GABBETT, M.D.

Reviews.

DR. JOHN FOTHERGILL.

THE appearance of *Dr. John Fothergill and his Friends*,¹ from the pen of Dr. Hingston Fox, will be welcomed by all those who are students of the eighteenth century. It is the fashion for some, quite unjustly, to sneer at that century as an age of artificiality and stagnation; yet during the greater part of that epoch the final blows were being struck which emancipated the human intellect, we may hope for ever, from the fetters of superstition and authority so-called. That age witnessed the fall of the obsolete edifice of feudalism, and saw the road traced out up which we have since travelled to the enjoyment of civil, intellectual, and religious freedom. In that century also were re-established the sound principles governing scientific inquiry at the present day, which, lying dormant since the close of the seventeenth century, suddenly burst forth with such power during the last thirty years of the century. With this book as an introduction it is pleasant to join the circle of representative Georgians who shared the friendship and hospitality of Dr. Fothergill, and who played a not inglorious part in the intellectual and social developments of the age in which they lived.

Dr. Hingston Fox, as we already know, is quite at home in the eighteenth century. He prefers the silk stockings, the knee breeches, and the brocaded waistcoat to the doublet and the hose. He has made full use of his great knowledge of this period, and by inheritance and conviction he is ably equipped to describe the life and times of a man who was certainly the most prominent member of the Society of Friends in the eighteenth century. The result is notable for accuracy and wealth of research, and the book is written in a sober and correct style that would surely have earned the encomiums of the most precise of Fothergill's friends.

Whatever may be said of the general reputation of Fothergill as a figure in his age, the estimation of his exact position as a physician is a difficult problem. Like

¹ *Dr. John Fothergill and his Friends. Chapters in Eighteenth Century Life.* By R. Hingston Fox, M.D. Macmillan and Co., Ltd. (8vo. xxiv + 434. 21s. net.)