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The Medical Arrangements For South Africa

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Binnie, are in compliance with and in completion of the scheme propounded by the late Sir J. Bazalgette forty years ago for the main drainage of the metropolis. It is idle at the present time to wish that the whole scheme of disposal of London's sewage had been such as to return refuse to the land and storm water to the river. That counsel of perfection, if it were ever attainable, is now out of the question except by fundamental reconstruction at incalculable cost.

The history of main drainage in London is briefly this. Up to the year 1815 it was penal to discharge sewage or other offensive matters into the streams or the old natural watercourses. Cesspools were regarded as the proper receptacles for house drainage, and the streams as the legitimate channels for carrying off the surface waters only. As population increased the old system had to be superseded, and in the year 1847 the first Act was obtained making it compulsory to drain houses into the streams which discharged directly into the Thames. These open streams gradually become polluted, and covered brick channels were necessarily substituted for them. The drainage of London was thus effected by means of sewers running in a general direction at right angles to the river, which as time went on became more and more polluted. This state of affairs gave rise to such serious complaints that after several Commissions had failed to come to any practical result in effecting a solution of the difficulty, the Metropolitan Board of Works was formed with the object of preventing the sewage from entering the Thames in its passage through London as one of its main duties.

The County Council continued the policy of the late Board, and constructed many relief sewers at a cost of more than a million; it also greatly improved the condition of the Thames at the outfalls by careful chemical treatment of the sewage; but the time has now arrived when the great interception mains, five in number, which cross London from west to east, require to be augmented. The main drainage system was constructed to serve 3,450,000 persons, with an average water supply of 31½ gallons per head; whereas it now serves 4,700,000, or 36 per cent. more persons, with a water supply of from 35 to 40 gallons per head. The population is increasing at the rate of about 400,000 persons in every ten years. The system was designed for a dry-weather flow of sewage of 108 million gallons daily, whereas the quantity now passing may be taken at about 195 million gallons daily, or an increase of about 80 per cent. The northern low-level sewer was not designed to take any of the sewage west of Chelsea, as it was intended to discharge it after treatment into the Thames at Fulham. The whole of the drainage of the area south of the river Thames amounts in dry weather to about 80 million gallons daily, and all this quantity has to pass through the only existing sewer between Deptford and Crossness.

THE MEDICAL ARRANGEMENTS FOR SOUTH AFRICA.

THE very interesting letters from our correspondent in Capetown which have been published during the last few weeks will have been read with interest we believe by all, and with particular satisfaction by those members of the Association who took a share in the long controversy to

obtain for the medical officers of the army due recognition of their true military status. Our correspondent, who is a practitioner of large experience in the Colony, has told us that the medical arrangements appear to him to be as nearly perfect as human foresight can make them, and has expressed his sense of the great advances made since the Zulu war. The letters and telegrams of the correspondents of our daily contemporaries bear not less satisfactory testimony to the gallantry and devotion shown by the officers of the Royal Army Medical Corps in the field, and to the foresight displayed by administrative officers. Thus in Natal, Colonel Exham, the Principal Medical Officer of Sir George White's force, had organised hospitals at Ladysmith before hostilities commenced, and rapidly increased his accommodation for the wounded by requisitioning chapels and schools so soon as the first shot was fired. No doubt in this campaign the task of the Royal Army Medical Corps has been very much facilitated by two circumstances. First of all, the railway arrangements have been so good that it has been possible—in Natal during the early days of the campaign before the investment of Ladysmith, and again in the east during the advance to Kimberley—to move most of the wounded from the field hospitals to the hospitals on the lines of communication, or at the base, within a day or two of the action in which they were wounded. This has left the field hospitals comparatively free to deal with fresh casualties, while the advantage to the wounded of being transported in specially fitted ambulance trains to such well-appointed hospitals as the Royal Army Medical Corps has been able to fit up in the barracks at Wynberg, and so saved the hardships necessarily attending the lot of wounded men carried with an army or treated near the front, are too obvious to need discussion. The second point is more unexpected, and will undoubtedly lead to much discussion in the future. It is that, in spite of quick-firing guns and the reputation of the Boers as marksmen with the rifle, the number of killed and wounded is very distinctly lower than in earlier campaigns. Lord Methuen has said that the battle of the Modder River was one of the hardest fought in the annals of the British army. Even allowing for a little natural exaggeration on the part of a General who had himself been wounded in the action, and discounting very largely the picturesque adjectives of some of the correspondents, there can yet be no doubt that the Boer fire, both the rifle fire and that from quick-firing guns, was very severe, yet it is surprising to find that the total number of casualties was only 475 out of a total force of 6,500. This is 7½ per cent. At Inkerman in 1854, another "soldiers' battle," where the force was only a little larger—7,474—the casualties numbered 2,357, or 31 per cent. At Waterloo, where the British force was, in round numbers, 23,000, the killed and wounded numbered 6,932, or 29 per cent., while at Albuera in 1811, probably the bloodiest battle ever fought by the British army the force of 8,200 men lost 3,990 killed and wounded, or 48 per cent. On the other hand the ratio of killed to wounded in this campaign has so far been less than in many previous campaigns, though nearly identical with the German experience in the Franco-German war. We are unfortunately compelled to hold over this week some very interesting remarks on this subject which we have received from our correspondent, a South African campaigner, but it appears that in the Russo-Turkish war, during which the Russians had frequently to attack entrenched positions, the ratio of killed to wounded was as high as 1 to 2.1, while Longmore, from the consideration of a great mass of statistics, arrived at a general average of 1 to 4. So far the ratio in Lord Methuen's force in the three actions at Belmont, Graspan, and Modder, in all of which entrenched positions were attacked in front, the ratio has been approximately 1 to 5.3. Altogether the Royal Army Medical Corps has had to deal

with about 800 wounded from the three actions. The wounded from Belmont numbered 238, and most were sent south by train before the later actions took place under the direction of Surgeon-General Wilson, P.M.O. of the army corps, who met them at Orange River. Before long we hope to be able to commence the publication of letters from a distinguished surgeon who has proceeded to South Africa as our special war correspondent, and we have every reason to anticipate that he will be able to report that the arrangements for the relief of the wounded are continuing to work well. At any rate we know that no effort is being or will be spared, and that the arrangements are under the direction of officers of tried ability and long experience as administrators. Unfortunately, the splendid effort that has been made to render the medical arrangements in South Africa equal to the greatness of the needs has almost denuded home stations. Some of the vacant billets have been filled by officers from the reserve, and others by officers who had retired but volunteered for service again in this emergency. This is not a satisfactory state of things, and shows convincingly the truth of the contention, which we have again and again advanced in these pages, that the Army Medical Corps is undermanned. No doubt we shall learn many lessons from this unhappy war. Military critics tell us that we shall have to increase the artillery and cavalry; and we venture to think that, though no weakness has been disclosed in the field of operations, but rather the contrary, another lesson will be that we must increase the establishment of the Royal Army Medical Corps, which at the outbreak of hostilities was dangerously low even for a peace footing.

CLINICAL RESEARCH IN LONDON.

At this time, when to a superficial observer it might appear that the chief end of civilised man is the destruction of his fellows, it is encouraging to those who still have faith in human progress to turn to the peaceful field of scientific research. Reference has already been made to the enlightened liberality of the London County Council in promoting investigations into the pathology of insanity; now we have to congratulate the Governors of the Middlesex and the Westminster Hospitals on the steps which they have recently taken for the furtherance of clinical research. Details of the schemes are given elsewhere. They appear to be well devised for the special end in view, and their practical execution has been placed in competent hands, so that good results may confidently be looked for. It is to be hoped that other schools in London and elsewhere will follow the example thus set. At the present time certain millionaires are said to be exercised in their minds as to how they may best apply their wealth for the good of mankind. One of these said some time ago that the millionaire who dies rich is disgraced. As he is credited with the possession of some forty millions, his position is, on his own showing, a very serious one. Naturally there is no lack of advisers to suggest means by which he may practise the salutary depletion which he considers necessary. To us there appears to be no difficulty in the matter. The promotion of original research, especially in the province of medical science, offers a practically limitless field for the useful expenditure of money, and there is certainly no other department of human enterprise in which so much absolute good may be accomplished. To any millionaires in doubt what to do with their money we commend the example of M. Osiris, a well-known philanthropist, who has just given to the Institute of France a capital sum representing an annual income of some 32,000 francs for a triennial prize of 100,000 francs, to be awarded for the most remarkable work or discovery from the point of view of the general interest. M. Osiris makes special reference to the fields of surgery and medicine. In exhibition years the prize is to be open

to all countries. We think, however, that the foundation and endowment of research laboratories is better than prizes as an investment for "the general interest."

THE USE OF PRESERVATIVES IN FOOD.

THE Departmental Committee appointed to inquire into the use of preservatives in foods has recently taken the evidence of some of the medical officers of health who have more particularly interested themselves in the subject. These gentlemen were unanimous in condemning the practice of the use of antiseptics in food, and agreed that it was as unnecessary as it was undesirable. Dr. Williams, the Medical Officer of the Glamorgan County Council, who gave evidence on behalf of the Incorporated Society of the Medical Officers of Health, gave it as his opinion that the practice of drugging the public promiscuously and without their knowledge by incompetent persons was very dangerous. He found that the amount of boric acid added to milk varied from $13\frac{1}{2}$ grains to 210 grains per gallon, while in butter the amount of boric acid was from 1 to 112 grains per pound. He considered that 17 grains per pound was sufficient to preserve butter. He was unable to offer evidence of any direct injury to health which had resulted from the use of preservatives, but, like the next witness, Dr. Handford, Medical Officer of Health to the Notts County Council, he believed that injurious effects must follow from the use of boric acid in such a large variety of foods. Dr. Alfred Hill, the medical officer of health of Birmingham, had found that 9 per cent. of the milk samples submitted to him for analysis during three years and a half contained either boric acid or formaldehyde. He gave evidence of the injurious effect of milk containing the usual quantity of boric acid upon a kitten, which died in about five weeks. He considered that formaldehyde was more injurious to health than boric acid, for it hardened albuminous materials and made them more difficult of digestion. Of 871 samples of butter examined 243 contained boric acid, and of 21 samples of bacon, ham, sausages, polonies, and pork pies 64 per cent. contained from 10 to 45 grains per pound of boric acid. Dr. Cameron, Medical Officer of Health for Leeds, gave similar evidence, and expressed it as his belief that such preservatives interfered with the natural process of digestion; he thought, with others, that the use of these preservatives should be declared, just as chicory in coffee had to be, so that the purchaser might know what he was buying.

MR. D. L. MOODY ON MEDICINE.

THERE is not always that sympathy between healers of souls and healers of bodies that should exist between members of mutually complementary professions. The mass of the educated clergy of all denominations, indeed, obey the scriptural precept and honour the physician for the need they have of him. There is, however, what may be called a natural affinity between religious teachers of a certain type and quackery. We are all the more pleased, therefore, to cite a passage from a sermon recently preached in Chicago by Mr. D. L. Moody, in which that noted evangelist rebuked a brother preacher who had openly supported a notorious American quack and allowed one of his children to die of diphtheria without calling in a medical practitioner. Mr. Moody, after pointing out that the saving of souls and the healing of the body are two entirely different functions, went on to say: "I do not believe that doctors are devils. The noblest profession outside of the ministry is that of medicine. Never yet in all my years of work have I called upon an able doctor, telling him of the sickness and need of some poor friendless person, that he did not at once go to the rescue, without money and without price. Some of the noblest men I ever knew have gone out as medical missionaries, devoting their lives to doing good with the